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## A GRAPHICAL EXPOSITION OF THE COMPLETE KEYNESIAN SYSTEM\*

WARREN L. SMITH

*Ohio State University*

The purpose of this paper is chiefly expository. A simple graphical technique is employed to exhibit the working of several variants of the Keynesian model. Many of the issues discussed have been dealt with elsewhere,<sup>1</sup> but it is hoped that the analysis presented here will clarify some of the issues and be useful for pedagogical purposes.

### I. THE KEYNESIAN SYSTEM WITH FLEXIBLE WAGES

This system can be represented symbolically by the following five equations:

$$y = c(y, r) + i(y, r) \quad (1)$$

$$\frac{M}{p} = L(y, r) \quad (2)$$

$$y = f(N) \quad (3)$$

$$\frac{w}{p} = f'(N) \quad (4)$$

$$N = \varphi\left(\frac{w}{p}\right). \quad (5)$$

Here  $y$  = real GNP (at constant prices),  $r$  = an index of interest rates,  $M$  = money supply (in current dollars),  $p$  = index of the price level applicable to GNP,  $N$  = the volume of employment (in equivalent full-time workers),  $w$  = the money wage. The model represents a theory of short-run income determination with capital stock fixed and labor the only variable factor of production.

The working of this model is illustrated in Figure I. Figure I should be studied

\* The development of the technique employed in this paper is a result of discussions with many persons, particularly Professor Daniel B. Suits of the University of Michigan, to whom the writer wishes to express his thanks.

<sup>1</sup> See particularly L. R. Klein, "Theories of Effective Demand and Employment," *Journal of Political Economy*, April 1947, LV, pp. 108-131, reprinted in R. V. Clemence (ed.), *Readings in Economic Analysis*, Vol. I (Cambridge, Mass.: Addison-Wesley Press, 1950), pp. 260-283, and *The Keynesian Revolution* (New York: Macmillan Co., 1950), esp. Technical Appendix; F. Modigliani, "Liquidity Preference and the Theory of Interest and Money," *Econometrica*, Jan. 1944, XII, pp. 45-88, reprinted in F. A. Lutz and L. W. Mints (eds.), *Readings in Monetary Theory* (Philadelphia: Blakiston, 1951), pp. 186-239; also V. Lutz, "Real and Monetary Factors in the Determination of Employment Levels," *Quarterly Journal of Economics*, May 1952, LXVI, pp. 251-272; L. Hough, "The Price Level in Macroeconomic Models," *American Economic Review*, June 1954, LXIV, pp. 269-286.

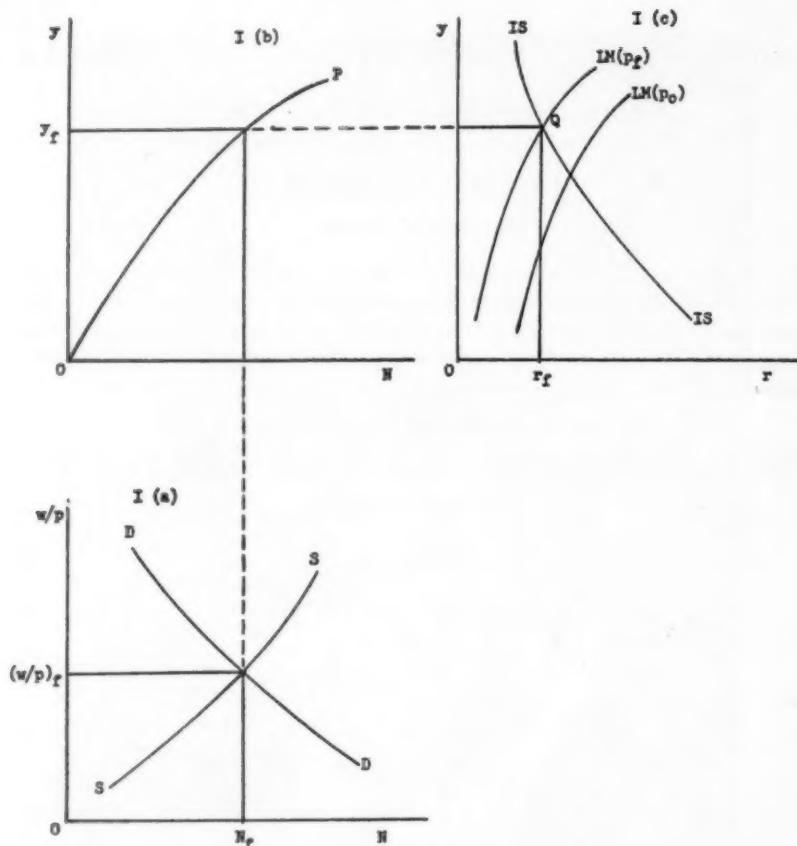


FIGURE I

in clockwise fashion, beginning with Chart I (a) in the lower lefthand corner. In I (a),  $DD$  represents the demand for labor [equation (4)], and  $SS$  represents the supply of labor [equation (5)]. The level of employment and the real wage are determined at the full employment levels,  $N_f$ , and  $(w/p)_f$ . Proceeding to I (b), the curve  $OP$  represents the aggregate production function [equation (3)], its shape reflecting diminishing returns.<sup>2</sup> With employment of  $N_f$ ,  $y$  would be at the level  $y_f$ , indicated in I (b).

<sup>2</sup> According to the mathematical formulation of our model in equations (1)-(5), the curve  $DD$  in I (a) is the derivative of curve  $OP$  in I (b), the relation reflecting the operation of the marginal productivity law under competitive conditions. This precise condition is not important, however, and we shall make no attempt to draw the curves in such a way as to fulfill it. For one thing, the presence of monopoly in the economy or failure of

Chart I (c) is the type of diagram developed by Hicks and utilized by others to depict the condition of monetary equilibrium in the Keynesian system.<sup>3</sup> The *IS* curve in I (c) depicts equation (1) and indicates for each possible level of the interest rate (*r*) the equilibrium level of income (*y*) which would prevail after the multiplier had worked itself out fully.<sup>4</sup> We treat the stock of money as an exogenous variable determined by the monetary authority. Given *M*, the *LM* curves in I (c), of which there would be one for each possible price level (*p*) which might prevail, represent equation (2) in our model. For example, if the price level were held constant at *p*<sub>0</sub>, the curve *LM*(*p*<sub>0</sub>) depicts the different interest rates that would be required to preserve equilibrium in the money market at different income levels. The fact that rising income levels are associated with higher interest rates reflects the presumption that as income rises, transactions cash requirements are larger, leaving less of the fixed (in real terms) quantity of money to satisfy demands for idle balances, thus pushing up the interest rate.

If prices and wages are flexible and the situation is as depicted in Figure I, full employment will automatically be maintained, since the price level will adjust to the level *p*<sub>f</sub>, establishing the *LM* curve in the position *LM*(*p*<sub>f</sub>) where it will intersect the *IS* curve at point *Q* which corresponds to the full employment level of income (*y*<sub>f</sub>). If, for example, the real wage is initially above  $\left(\frac{w}{p}\right)_f$ , money wages will fall due to the excess supply of labor. This will reduce costs, resulting in increased output and employment and lower prices. Falling prices shift the *LM* curve upward by increasing the real value of cash balances  $\left(\frac{M}{p}\right)$ , thus lowering the interest rate and expanding aggregate demand to the point where the market will absorb the output corresponding to full employment.<sup>5</sup>

Two important and related propositions can be set down concerning interest and money in the above model:

(1) The rate of interest is determined solely by saving and investment and is independent of the quantity of money and liquidity preference.

(2) The quantity theory of money holds for this model—that is, a change in

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entrepreneurs to seek maximum profits would destroy the precision of the equations, but relations of the type depicted in Figure I would in all probability continue to hold.

<sup>3</sup> For a detailed discussion of this diagram, see J. R. Hicks, "Mr. Keynes and the 'Classics': A Suggested Interpretation," *Econometrica*, April 1937, V, pp. 147-159; also A. H. Hansen, *Monetary Theory and Fiscal Policy* (New York: McGraw-Hill, 1949), Chap. 5. The reader's attention is directed to the fact that we have reversed the axes of the Hicks diagram; we measure the interest rate on the horizontal axis and income on the vertical axis.

<sup>4</sup> It should be noted that the formal analysis in this paper falls entirely in the category of comparative statics, that is, it refers to conditions of equilibrium and changes in the equilibrium values of the variables brought about by changes in data or exogenous variables and does not pretend to describe the *paths* followed by the variables as they move from one equilibrium position to another.

<sup>5</sup> We abstract from the possibility of dynamic instability which may arise due to falling prices if the public has elastic expectations. See D. Patinkin, "Price Flexibility and Full Employment," *American Economic Review*, Sept. 1948, XXXVII, pp. 543-564, reprinted with slight modification in Mints and Lutz, *op. cit.*, pp. 252-283.

the quantity of money will bring about an equal proportional change in the price level and will have no effect on real income or employment.

In other words the quantity of money and liquidity preference serve not to determine the interest rate, as alleged by Keynes, but the price level. As can readily be seen from Figure I, income is established at the full employment level [I (a) and I (b)], the interest rate adjusts to equate saving and investment [on the *IS* curve in I (c)] at this income level, and the price level adjusts so as to satisfy liquidity requirements at this interest rate [establishing the *LM* curve at the appropriate position in I (c)].

It is a comparatively simple matter to modify the analysis of Figure I to take account of the possible effect of changes in the real value of liquid assets on consumption (the Pigou effect).<sup>6</sup> The real value of the stock of liquid assets would be included in equation (1), and falling prices would then shift the *IS* curve to the right, thus strengthening the tendency toward full employment equilibrium. This suggests the question: Does the introduction of the Pigou effect give the quantity of money the power to change the rate of interest when prices and wages are flexible? The answer to this question cannot be deduced from the curves of Figure I, but it is not difficult to find the answer with aid of the following simple model:

$$\bar{y} = c(\bar{y}, r, a) + i(\bar{y}, r)$$

$$\frac{M}{p} = L(\bar{y}, r)$$

$$a = \frac{A}{p}.$$

Here  $a$  = the real value of liquid assets which is included in the consumption function and  $A$  = their money value. The last three equations of our original model are assumed to determine the real wage, employment, and real income. These equations are dropped and  $y$  is treated as a constant (having value  $\bar{y}$ ) determined by those equations. We can now treat  $M$  and  $A$  as parameters and  $r$ ,  $a$ , and  $p$  as variables, differentiate these three equations with respect to  $M$ , and solve for  $\frac{dr}{dM}$ . This gives the following expression:

$$\frac{dr}{dM} = \frac{\frac{c_a}{i_r} \frac{A}{M} (1 - \eta_{AM})}{p \left( 1 + \frac{c_r}{i_r} + \frac{A}{M} \frac{L_r c_a}{i_r} \right)}. \quad (6)$$

<sup>6</sup> On the Pigou effect, see A. C. Pigou, "Economic Progress in a Stable Environment," *Economica*, New Series, August, 1947, XIV, pp. 180-188, reprinted in Lutz and Mints, *op. cit.*, pp. 241-251; Patinkin, *op. cit.*; G. Ackley, "The Wealth-Saving Relationship," *Journal of Political Economy*, April 1951, LIX, pp. 154-161; M. Cohen, "Liquid Assets and the Consumption Function," *Review of Economics and Statistics*, May 1954, XXXVI, pp. 202-211; and bibliography in the latter two articles.

In this expression, the subscripts refer to partial derivatives, e.g.,  $c_a = \frac{\partial c}{\partial a}$ .

Normally, the following conditions would be satisfied:  $c_a > 0$ ,  $i_r < 0$ ,  $L_r < 0$ . We cannot be sure about the sign of  $c_r$ , but it is likely to be small in any case. The coefficient  $\eta_{AM}$  has the following meaning:

$$\eta_{AM} = \frac{M}{A} \frac{dA}{dM} = \frac{\frac{dA}{dM}}{\frac{M}{A}}.$$

For example, if a change in  $M$  is brought about in such a way as to produce an exactly proportionate change in  $A$ ,  $\eta_{AM}$  will be unity. Or if the change in  $M$  is not accompanied by any change in  $A$ ,  $\eta_{AM}$  will be zero. It is apparent from the above expression that a change in the quantity of money will not affect the rate of interest if  $\eta_{AM} = 1$ , while an increase (decrease) in the quantity of money will lower (raise) the rate of interest if  $\eta_{AM} < 1$ .<sup>7</sup> Thus, the way in which changes in the quantity of money affect the rate of interest depends upon what asset concept is included in the consumption function (i.e., what is included in  $A$ ) and how the volume of these assets is affected by monetary change. If  $M$  itself is the appropriate asset concept to include in the consumption function (i.e., if  $A = M$ ), changes in  $M$  will not affect the interest rate, since in this case  $\eta_{AM}$  is equal to unity. However, the consensus of opinion seems to be that some other aggregate, such as currency, deposits, and government securities held by the non-bank public minus the public's indebtedness to the banks, is more appropriate.<sup>8</sup> If this concept is employed, most of the usual methods of increasing the money supply will ordinarily either leave  $A$  unchanged ( $\eta_{AM} = 0$ ) or cause it to increase less than in proportion to the increase in  $M$  ( $0 < \eta_{AM} < 1$ ).<sup>9</sup> We may conclude that the Pigou effect gives monetary changes power to influence the rate of interest, even if wages and prices are fully flexible. An increase (decrease) in the quantity of money will ordinarily lower (raise) the rate of interest and also increase (decrease) investment and decrease (increase) consumption, but will not

<sup>7</sup> We assume that  $c_r \leq 0$ , or if  $c_r > 0$ ,  $1 + \frac{A}{M} \frac{L_r c_a}{i_r} > \left| \frac{c_r}{i_r} \right|$ , so that the denominator of (6) is positive.

<sup>8</sup> The question of what asset concept is appropriate is discussed in Patinkin, *op. cit.*, Cohen, *op. cit.*, and J. Tobin, "Asset Holdings and Spending Decisions," *American Economic Review Papers and Proceedings*, May 1952, XLII, pp. 109-123.

<sup>9</sup> Open market purchases of government securities by the central bank from the non-bank public will leave  $A$  unchanged, since the initial purchase transaction will result in a decline in the public's security holdings and an equal increase in  $M$ , while any induced expansion of loans and investments by the banks will result in an increase in  $M$  offset by an equal increase in the public's indebtedness to the banks. On the other hand if the Treasury prints currency and gives it to the public,  $A$  will be increased by the same absolute amount as  $M$  but the increase in  $A$  will be proportionately smaller than the increase in  $M$  (provided the public's holdings of government securities exceed its indebtedness to the banks so that  $A > M$ ).

change income and employment which are determined by real forces (the last three equations of our complete model).<sup>10, 11</sup>

## II. POSSIBILITIES OF UNDEREMPLOYMENT DISEQUILIBRIUM

There are several possible circumstances arising from the shapes of the various schedules which might produce a situation in which, even though the relations in the above model held true, it might be impossible, at least temporarily, for equilibrium (full employment or otherwise) to be reached. The most widely discussed of these possibilities is depicted in Figure II.

II (a) and II (b) are similar to I (a) and I (b). However, the  $LM$  curves in II (c) are drawn to reflect the much-discussed possibility mentioned by Keynes<sup>12</sup> that the liquidity preference schedule might become infinitely elastic at some low level of interest rates [ $r_a$  in II (c)], due either to the unanimous expectations of investors that interest rates would rise when they reached this extremely low level relative to future expectations or to the cost of investments. In the case depicted, full employment ( $N_f$ ) would involve a level of income of  $y_f$ . If the  $IS$  curve were at the level  $IS_0$ , the interest rate required to make investment equal to saving at income  $y_f$  would be  $r_f$ . But the infinite elasticity of the  $LM$  schedule prevents the interest rate from falling below  $r_a$ . The result would be that employment and income would be prevented from rising above the level  $N_a$  and  $y_a$  by inadequate effective demand. The real wage would hold at the level  $(\frac{w}{p})_a$ ,

which is above the full employment level  $(\frac{w}{p})_f$ . Competition for employment would reduce money wages, costs, and prices. But the falling price level, although it would increase the quantity of money in real terms, would not affect the interest rate, hence would not increase investment. As prices fell, the  $LM$  curve would take successive positions, such as  $LM(p_0)$ ,  $LM(p_1)$ ,  $LM(p_2)$ , etc., leaving the interest rate unaffected.<sup>13</sup>

<sup>10</sup> The fact that the existence of a wealth effect on savings may confer upon the quantity of money the power to affect the rate of interest even with flexible wages is demonstrated in L. A. Metzler, "Wealth, Saving, and the Rate of Interest," *Journal of Political Economy*, April 1951, LIX, pp. 93-116. Metzler's conclusions, which differ from those given here, can be attributed to assumptions that he makes, particularly the assumption that the only assets are money and common stock.

<sup>11</sup> If the supply of labor is affected by the real value of wealth held by workers, changes in the quantity of money may affect output and employment by shifting the  $SS$  curve in Figure I (a). Also, even though monetary change does not affect the *current* level of income and employment, if, due to the operation of the Pigou effect, it changes the interest rate and thereby investment, it may affect the *future* level of employment, since the change in capital stock will ordinarily shift the demand for labor [DD curve in Figure I (a)] at a future date. Both these points are mentioned in V. Lutz, *op. cit.*

<sup>12</sup> J. M. Keynes, *General Theory of Employment, Interest, and Money* (New York: Harcourt, Brace and Co., 1936), pp. 201-204.

<sup>13</sup> Equations (1)-(5) above apply to the situations covered in both Figure I and Figure II. In the latter case, however, the equations are mathematically inconsistent and do not possess a solution. Mathematics does not tell us what will happen in this case (although

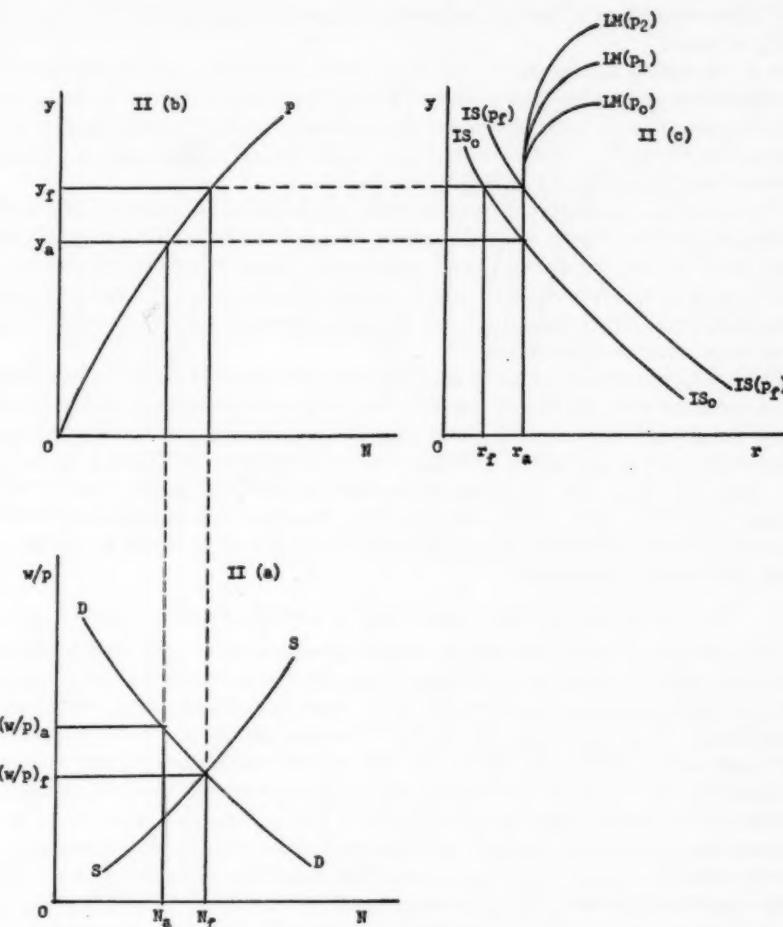


FIGURE II

A special case of the situation depicted in Figure II may arise if a negative interest rate is required to equate investment to full employment savings. In this case, the *IS* curve would cut the *y*-axis and lie to the left of it at an income corresponding to full employment. Then, even if there were nothing to prevent the rate of interest from approaching zero, it could not go below zero,<sup>14</sup> and the

the additional conditions necessary to describe the results could be expressed mathematically). The statements made above concerning the results (i.e., that income will be  $y_a$ , prices and wages will fall together, etc.) are propositions in economics.

<sup>14</sup> Since the money rate of interest cannot be negative, as long as it costs nothing to hold money. In fact, a zero rate of interest would be impossible, since in this case property

*LM* curve would have a floor at a zero rate, thus preventing full employment from being attained.

It is interesting to note that if the Pigou effect is operative, a full employment equilibrium may be attainable even in the case illustrated in Figure II. As prices fall, the real value of liquid assets increases. If this increases consumption expenditures, the *IS* curve will shift to the right until it attains the position *IS*( $p_1$ ), where a full employment equilibrium is reached.

Certain other conceivable situations which might lead to an under-employment disequilibrium are worthy of brief mention. One possibility is that the supply of labor might exceed the demand at all levels of real wages. Such a situation seems very improbable, however, since there is reason to believe that the short-run aggregate labor is quite inelastic over a considerable range of wage rates and declines when wage rates become very low.<sup>15</sup>

Disequilibrium situations could also arise if (a) the demand curve for labor had a steeper slope than the supply curve at their point of intersection, or (b) the *IS* curve cut the *LM* curve in such a way that *IS* lay to the right of *LM* above their intersection and to the left of *LM* below their intersection in Figure I (c) or II (c). Actually, these are situations of unstable equilibrium rather than of disequilibrium. However, in these cases, a slight departure from equilibrium would produce a cumulative movement away from it, and the effect would be similar to a situation of disequilibrium.

### III. UNDEREMPLOYMENT EQUILIBRIUM DUE TO WAGE RIGIDITY

Next we may consider the case in which the supply of and demand for labor are essentially the same as in Figures I and II, but for institutional or other reasons the money wage does not fall when there is an excess supply of labor.<sup>16</sup> This rigidity of money wages may be due to various factors, including (a) powerful trade unions which are able to prevent money wages from falling, at least temporarily, (b) statutory provisions, such as minimum wage laws, (c) failure of employers to reduce wages due to a desire to retain loyal and experienced employees and to maintain morale,<sup>17</sup> or (d) unwillingness of unemployed workers to accept reduced money wages even though they would be willing to work at lower real wages brought about by a rise in prices.<sup>18</sup>

A situation of this kind is depicted in Figure III. The fixed money wage is

values would be infinite; however, the rate might approach zero. The *real* rate of interest, *ex post*, may be negative due to inflation, but this is not relevant to our problem. On this, see I. Fisher, *The Theory of Interest* (New York: Macmillan Co., 1930), Chaps. II, XIX, and pp. 282-288.

<sup>15</sup> On the probable shape of the short-run aggregative supply of labor, see G. F. Bloom and H. R. Northrup, *Economics of Labor Relations* (Homewood, Ill.: Richard D. Irwin, 1954), pp. 250-253.

<sup>16</sup> We will assume that this rigidity does not prevail in an upward direction—i.e., money wages will rise when there is an excess demand for labor.

<sup>17</sup> See A. Rees, "Wage Determination and Involuntary Unemployment," *Journal of Political Economy*, April 1951, LIX, pp. 143-153.

<sup>18</sup> Keynes, *op. cit.*, Chap. 2; J. Tobin, "Money Wage Rates and Employment," in S. E. Harris (ed.), *The New Economics* (New York: Knopf, 1947), pp. 572-587.

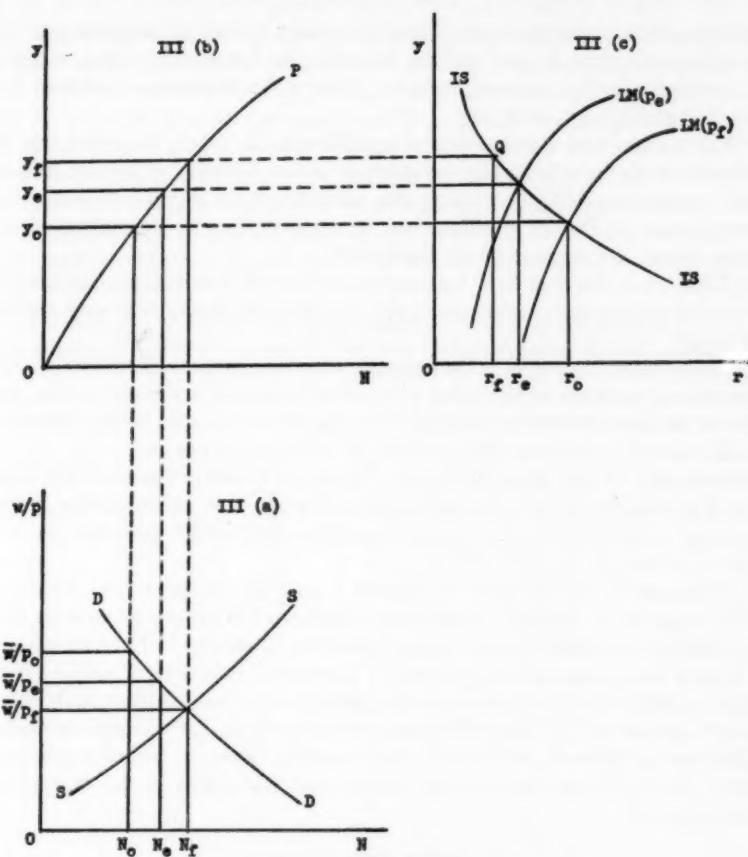


FIGURE III

designated by  $\bar{w}$ . In order for full employment ( $N_f$ ) to be attained, the price level must be at  $p_f$  (such as to make  $\frac{\bar{w}}{p_f}$  equal to the real wage corresponding to full employment), income will be  $y_f$ , and the interest rate must reach  $r_f$ . However, in the case shown in Figure III, the quantity of money,  $M$ , is such that when  $p$  is at the level  $p_f$ , the  $LM$  curve [ $LM(p_f)$ ] intersects the  $IS$  curve at an income ( $y_0$ ) below the full employment level and an interest rate ( $r_0$ ) above the full employment level. Hence full employment cannot be sustained due to inadequate effective demand. On the other hand, if production and employment are at  $y_0$  and  $N_0$ , with a price level such (at  $p_0$ ) as to establish a real wage appropriate to this volume of employment, the  $LM$  curve will be at a level above  $LM(p_f)$ . This is because  $p_0$  must be less than  $p_f$  in order to make  $\bar{w}/p_0$  higher than  $\bar{w}/p_f$ . In this case production and employment will tend to rise because aggregate

demand exceeds current output. Therefore, income must be between  $y_f$  and  $y_o$ , employment between  $N_f$  and  $N_o$ , the interest rate between  $r_f$  and  $r_o$ , the price level between  $p_f$  and  $p_o$ . An equilibrium will be reached somewhere between these limits, say at  $N_e$ ,  $y_e$ ,  $p_e$ , and  $r_e$ .<sup>19</sup>

This is a case of underemployment equilibrium. It should be noted that full employment can be attained by an increase in the quantity of money ( $M$ ) sufficient to shift the  $LM(p_f)$  curve to the position where it will intersect the  $IS$  curve at point  $Q$ . Two propositions can be set down here to be contrasted with the two stated in connection with Figure I.<sup>20</sup>

(1) Changes in the quantity of money cause changes in both the price level and the level of output and employment, and the quantity theory of money does not hold true.<sup>21</sup>

(2) An increase (decrease) in the quantity of money causes a decrease (increase) in the rate of interest. In this case, the interest rate is determined by the interaction of all the relations in the model. Saving, investment, liquidity preference, and the quantity of money all have a hand in its determination.

Introduction of the Pigou effect into Figure III would not prevent the occurrence of an underemployment equilibrium, although it would somewhat complicate the process of adjustment since changes in  $p$  or  $M$  would cause changes in the  $IS$  curve as well as the  $LM$  curve.

To summarize, our analysis of Figures I and III indicates that rigidity of money wages is, in general, a necessary condition for (a) the occurrence of an underemployment equilibrium, (b) the quantity of money to have an effect on the level of real income and employment. The rate of interest will not be affected by the quantity of money and liquidity preference unless (a) there is rigidity of money wages or (b) the Pigou effect is operative with  $n_{AM} \neq 1$ . Monetary theories of the rate of interest, whether of the loanable funds or liquidity preference variety, ordinarily assume rigidity (or at least stickiness) in the structure of money wages.<sup>22</sup>

#### IV. CONCLUDING COMMENTS

In conclusion, we would like to call the reader's attention to further uses to which our graphical technique can be put. With appropriate modifications to

<sup>19</sup> In the case depicted in Figure III, an additional equation  $w = \bar{w}$  is added to equations (1)-(5) above. This gives six equations and only five unknowns ( $y$ ,  $N$ ,  $p$ ,  $w$ , and  $r$ ). Such a system of equations is *overdetermined* and does not in general, possess a solution. If the quantity of money is treated as a variable which is adjusted so as to maintain full employment, we have six equations and six unknowns and there will be a solution (unless the equations are inconsistent).

<sup>20</sup> See p. 4, *supra*.

<sup>21</sup> In the limiting case in which the DD curve has a horizontal stage which includes the current level of employment, the entire effect of an increase in  $M$  is on  $y$ , with no change in  $p$ . A considerable part of Keynes' *General Theory* (prior to the discussion of wages and prices in Book V) has reference primarily to this situation.

<sup>22</sup> The relative merits of loanable funds and liquidity preference types of monetary interest theories we do not consider, except to say that when appropriately formulated, the two are equivalent.

suit the occasion, it can be used to analyze other variations of the Keynesian model.<sup>23</sup> Additional factors affecting the income, employment, and price levels, such as those suggested by Hough<sup>24</sup> and by Lutz<sup>25</sup> can be quite easily introduced into the analysis through appropriate shifts in the schedules shown in our system of graphs. Fiscal policy and its relation to monetary policy can be dealt with, since fiscal policy influences the level and shape of the *IS* curve. Finally, it provides a useful starting point for the study of economic growth. Factors affecting the rate of growth, such as capital accumulation, population growth, technological change, etc., can be brought in by allowing for their effects on the various schedules.

<sup>23</sup> For example, the models with which Modigliani begins his analysis (*op. cit.*, pp. 46-48 in original, pp. 187-190 in *Readings in Monetary Theory*). Analysis of these models requires some alteration in the graphical technique, since he assumes that consumption, investment, and the demand for money, all in current dollars, depend upon money income and the rate of interest, thus introducing "money illusions" into his scheme at several points.

<sup>24</sup> *Op. cit.*

<sup>25</sup> *Op. cit.*

## METHODOLOGY IN ECONOMIC DEVELOPMENT: A COMPARATIVE ANALYSIS

JOHN P. OWEN

*University of Houston*

A great new body of economic doctrine is in process of formation. It will not burst suddenly upon the world as the distillation of a single, great mind. To the contrary, it is being hammered out by the combined effort of many minds in several disciplines and subdisciplines. It is years, even decades away from the stage of a general theory.<sup>1</sup> Yet it is growing surely and massively in this direction.

This new body of doctrine is generating a fresh wind in economics. It is integrating and giving point to a rather chaotically divided academic profession, and it is bringing the economist into invigorating contact with many long-forgotten brethren of the robe in allied social science fields. It is, furthermore, pulling the economist abreast of the social problems of the unfolding twentieth century, as the *General Theory* did in the dog days of the thirties. We are speaking of course of the yeast that is working in the field of economic development.

The methodological approaches being employed in the field of development are legion within the field of economics alone. Economic history is being restudied on a comparative basis to uncover meaningful patterns of development or to highlight key variables that have either promoted or restricted growth. Social, political and economic institutions are being scrutinized on an interdisciplinary basis to test their compatibility with processes of industrialization. Key propensities and functions are being empirically analyzed for the first time; and new and uniform interrelationships, suspected and unsuspected, are being validated. Elaborate structural analyses are underway in terms of money flows and physical coefficients. Aggregative models are forcing recognition of the need for disaggregation models. Consistency conditions are being established deductively and empirically. International agencies are investigating specifically proposed ventures in development and becoming adept at so-called technical assistance. Methodological diversity reigns undisputed.

Historically, three major theories of economic development have been propounded: the Classical, the Marxian and the Schumpeterian theories. They are all rich in insight, bold in concept and sweeping in their implications, though in varying degree. Although many of their insights are widely and appreciatively held, these theories are rapidly becoming, if they are not already, relics of the past; and are judged as being anywhere from dead wrong to seriously inadequate as a theory of development.

It would be idle to review the substantive content of these older theories. This

<sup>1</sup> By a general theory of development we do not imply a single, universal hypothesis. All that is demanded is a broad but well-integrated body of principles capable of explaining development at different times under varying institutional settings.

has been done piece by piece, and bit by bit, by the Masters. The results are common knowledge. Yet little has been done in a systematic way to compare and evaluate the different methodological approaches these theories have taken to their subject.

Such a comparative analysis of methodological approach might well be instructive in the search for a modern theory of development. Pitfalls may be avoided and methodological approaches more carefully geared to research objectives.

For the purposes of our analysis, the methodological approaches to economic development will be subsumed under four broad rubrics: (1) the evolutionary or institutional approach, which is essentially a socio-historical methodology; (2) the psychological approach; (3) the functional approach; and (4) the structural approach.<sup>2</sup> There is no presumption here that this is a definitive classification of methodological approaches to development; the classification is purely operational. Nor should there be any implication that the classification is mutually exclusive; to the contrary, it will be our last thesis that the approaches are complementary and to a rather high degree interrelated. Indeed, it will be argued —on the basis of our reading of the historical evidence—that a general theory of development should exploit all four of these general approaches.

A word now about the quadrant encompassed by each approach. The evolutionary or institutional approach holds that social organization provides the key to development, that the forces of expansion are held in check or released by the traditional ordering of human relationships as expressed through group activity. Naturally this approach is essentially historical but in a highly selective sense. The psychological approach stresses, on the one hand, the existence of broad socio-economic propensities, such as, the propensity to reproduce or the propensity to consume, that are rooted deep in a society's culture. On the other hand, the psychological approach isolates for analysis the drives and motivations of functionally important groups in the economy. These drives and motivations may be taken as data, or, more ideally, they may be related back to the cultural context out of which they arise, unless they are considered cross-cultural and hence innate. The functional approach stresses the performance of particular economic tasks as the most crucial factor in development. Inevitably, of course, this approach tends to emphasize entrepreneurship and innovation as the catalytic factors. To the extent that the performance of critical functions is related back to its motivational matrix, the functional approach blends with the psychological approach, as the latter, in turn, when it is linked back to its institu-

<sup>2</sup> For brief but suggestive discussions of general theoretical approaches to economic development see Adolph Lowe, "Structural Analysis of Real Capital Formation," and W. W. Rostow, "Some General Reflections on Capital Formation and Economic Growth," in Conference of the Universities-National Bureau Committee for Economic Research, *Capital Formation and Economic Growth* (Princeton, N. J.: Princeton University Press, 1955), pp. 581-667. Also, Moses Abramovitz, "Economics of Growth," in *A Survey of Contemporary Economics* (Homewood, Ill.: Richard D. Irwin, 1952), Volume II, Chapter IV. Also, B. S. Keirstead, *The Theory of Economic Change* (Toronto: Macmillan Company of Canada, 1948), pp. 1-104.

tional matrix, blends with the evolutionary approach. The structural<sup>3</sup> approach proceeds in terms of an analysis of the balance—or lack of balance—in money flows and physical coefficients. Either empirical or deductive methods can be employed. Quite frequently deductive techniques lead to the construction of consistency—or inconsistency—models which posit a given rate of growth on the attainment of given levels of income or expenditure or a given relationship among physical coefficients. In a final sense structural analysis is interested in aggregate relationships; but these will attain less than optimum levels unless there is balance in the substructure. Disaggregation models are therefore instructive.

It is now appropriate to examine the three historical theories of development in the context of the alternative methodological approaches. The Classical theory of development can serve as a starting point.

Under the Classical theory,<sup>4</sup> development is seen as proceeding at a gradually diminishing rate of increase until a Stationary State eventuates. This outcome is the inevitable product of diminishing returns, especially in agriculture, and an overpowering propensity to reproduce. Beginning, let us say, with an increase in population,<sup>5</sup> agricultural production is expanded at both the extensive and intensive margins, diminishing returns is encountered, rents on superior grades of land arise, money wages advance, profits decline, capital accumulation is discouraged and the rate of development slows. Although Say's Law is operative, there is little in the way of savings to be converted, even automatically, into investment; for, how can the flow of savings swell when wages are at subsistence levels and profits are declining. Technological improvement is admitted, but it is seen as a poor match for the inexorable law of diminishing returns.

From a methodological standpoint the Classical theory appears as a neat but powerful inconsistency model in which a structural fault—the law of diminishing returns—undermines development when the economic system is operated under the pressure of a growing population, brought on by the culturally-conditioned propensity to reproduce.<sup>6</sup> When related to the overpopulated underdeveloped

<sup>3</sup> The structural approach is undoubtedly the most purely economic approach, and it is in this methodological camp that the "economic theorist" is usually found. The "theorists" also use the term "economic dynamics" to cover that category of analysis in which economic phenomena are studied in relation to preceding and succeeding events. In his book, *Economic Dynamics*, Baumol denotes three areas of dynamic analysis: (1) the "magnificent" dynamics of the Classicists, Schumpeter and Marx; (2) statics involving time, à la Hicks; and (3) process or sequence analysis. In our view Baumol's "magnificent" dynamics should be equated with the economics of development, with statics involving time and process or sequence analysis subsumed under our "structural" methodology. See William J. Baumol, *Economics Dynamics* (New York: Macmillan Company, 1951), pp. 1-7.

<sup>4</sup> For a synoptic treatment of the Classical theory of economic development see Harold G. Moulton, *Controlling Factors in Economic Development* (Washington, D. C.: Brookings Institution, 1949), pp. 3-38. Also, D. Hamberg, *Economic Growth and Instability* (New York: W. W. Norton & Company, 1956), pp. 5-10. Also, Keirstead, *op. cit.*, pp. 69-85.

<sup>5</sup> Population change in the classical model is, of course, a dependent variable.

<sup>6</sup> It is likely that the Classicists did not view the propensity to reproduce as culturally-conditioned. Their rather hedonistic economic man was seemingly motivated by natural drives that inhered in his physical make-up rather than having been environmentally shaped.

countries of the twentieth century, the Classical theory still applies with convincing force. It has, of course, been long in discard as having any pointed relevancy for advanced nations.

The reasons for its failure correctly to describe the course of development in advanced economies is well known. The birth rate in these economies did not behave in accordance with the Malthusian principle; and, of course, the old favorite, diminishing returns, came out a poor second to the current darling, technological progress. In methodological terms the demise of the Classical theory can be attributed to the failure of the Classical economists to avail themselves of the insights provided by the evolutionary and functional approaches to development. By neglecting the evolutionary approach the Classical school failed to gain an appreciation of the revolutionary implications of the technological changes that had been underway since the early part of the preceding century. Similarly they failed to grasp the fact that industrialization would set in motion new undecurrents in human behavior that would invalidate the Principle of Population and through it the Iron Law of Wages.<sup>7</sup> By neglecting to undertake a functional approach to development the Classical writers overlooked the truly heroic figure of the Capitalist epoch—the entrepreneur. This innovator recognized, of course, no law of diminishing returns; and, if he had, no doubt would have defied it.

Economic development under the Classical theory has been likened to the growth of a tree, orderly and symmetrical, proceeding apace with a more elaborate division of labor until maturity (the Stationary State) is achieved. The Schumpeterian theory of development, on the other hand, finds its metaphor in the stage rocket whose acceleration rises, levels off and then assumes a constant speed until new impulses are provided.

In the Schumpeterian system<sup>8</sup> the initial and subsequent impulses to development are supplied by innovations. The rate of growth and the level of income are at any one time determined by the volume and intensity of the last burst of innovations. There are no precise limits to the rate of development, nor is there any necessary ceiling to the attainable level of development. Innovations, which are treated as exogenous, abound; but the entrepreneurial talent necessary to exploit them is limited in supply. Secular and cyclical changes are neatly and inextricably linked by the tendency of innovations to cluster in the plane of time, resulting from their unduly self-accommodating character.

The central figure in the unfolding drama is the entrepreneur. It is the entrepreneur who executes the vital developmental function by introducing those abrupt, irreversible and discontinuous changes we have come to know as innovations. It is his restless energy, urge to power and singlemindedness that makes the capitalist machine climb the hill.

Someone has said that we are all now Keynesians. To say that we are all now

<sup>7</sup> If the Classicists had viewed the propensity to reproduce as culturally-conditioned, they undoubtedly would have leaned more toward an evolutionary approach and would possibly have seen the link between industrialization and the Principle of Population. Of course, this is asking a lot of the early nineteenth century economist.

<sup>8</sup> For a synoptic treatment of the Schumpeterian system, see Baumol, *op. cit.*, pp. 20-35. Also, Keirstead, *op. cit.*, pp. 94-98.

Schumpeterians might even closer to the truth! Such has been the impact of Schumpeter's first great work, *The Theory of Economic Development*, on American economists.

In his methodological approach to development Schumpeter proceeds with Spartan simplicity. Among the four operationally defined approaches to development adduced earlier he rigorously employs only one: the functional. In relating development to major cyclical fluctuations Schumpeter verges upon a structural methodology—the clustering of innovations being incompatible with steady growth—but this idea is not developed with anywhere near the precision employed in current growth models. As Hamberg has pointed out, Schumpeter's refusal to use the Keynesian tools for this purpose is perplexing.<sup>9</sup>

Schumpeter combines a functional approach to economic development with a trenchant analysis of the psyche of the entrepreneur. A weakness appears, however, at this point in the Schumpeterian methodology. Although Schumpeter delves skillfully into the psychological traits and behavior patterns of the entrepreneur, he fails to relate these entrepreneurial characteristics to underlying social and cultural factors. His entrepreneur exists, as a result, in a cultural vacuum. We do not know, therefore, whether he is unique to the capitalist era or whether he may appear in different garb in other institutional settings.

Most significantly, Schumpeter avoided any semblance of an evolutionary approach in his analysis of development. His system, therefore, explains development only in the matrix of capitalist institutions circa 1900. The failure to take an evolutionary approach was undoubtedly a major reason why Schumpeter treated innovations as exogenous, a position that is unacceptable to many modern students of development.<sup>10</sup> Schumpeter's rejection of an evolutionary methodology was very perceptively corrected in *Capitalism, Socialism, and Democracy*; but this latter masterpiece was never fully integrated with *The Theory of Economic Development*, and the world thereby stands the loser.

In summary, Schumpeter very brilliantly and with great emphasis exploited the functional approach to economic development, blending it neatly with a keen motivational analysis of entrepreneurial behavior. Generally, however, his work suffered from its narrowness in methodological approach. He left his structural analysis at the highest level of generalization, failing to elaborate it later through the application of Keynesian tools, as have Domar, Harrod, Hamberg and others. His entrepreneur is a disembodied man left unrelated, except by implication, to any cultural context. His theory of institutional development was not forthcoming until some three decades following his *The Theory of Economic Development*, and it was never carefully articulated with that earlier work.

Under the Marxian theory,<sup>11</sup> development occurs at a progressive pace until it is choked by an enveloping network of institutions. The contradictions inherent

<sup>9</sup> Hamberg, D., *op. cit.*, p. xi.

<sup>10</sup> For example, see W. W. Rostow, *The Process of Economic Growth* (New York: W. W. Norton & Company, 1952), pp. 82-85 and 124-142.

<sup>11</sup> For a synoptic treatment of the Marxian system see Baumol, *loc. cit.* Also Eugene O. Golob, *The "ISMS,"* (New York: Harper & Brothers 1954), pp. 193-228. Also, Keirstead, *op. cit.*, pp. 85-94.

in an overly rigid institutional structure prevent the release of the forces of technological expansion. At such crucial junctures in history social revolutions occur during which institutional fetters are cast off and development is permitted to proceed anew. Such is the broad pattern of change evident in history, at least until the advent of full communism. The ultimate engine of development is the mode of production, and institutional contradictions are expressed in an irreconcilable class struggle.

During the era of capitalism, the mortal contradictions develop out of the accumulation process, which Marx depicts as capitalism's life stream. Included among the principal contradictions are a declining rate of profit, underconsumption, disproportionality, the concentration and combination of capital, the immiserization of the proletariat, imperialism, *et cetera*. The external manifestations of these contradictions are increased class tension, depression and war. Depression and war eventuate in breakdown and revolution. The dictatorship of the proletariat is established; and, as soon as society is purged of its capitalistic ethic, communism ensues.

Of all theories of economic development the Marxian theory is the most sweeping and imaginative. Of all theories it yields probably the most insights into development; yet, it is probably judged the most inaccurate of the older theories in terms of the validity of its final conclusions. The clarification of this paradox is not within our compass, as the reasons therefor lie for the most part outside the realm of methodological approaches to development.

From a methodological standpoint Marx, as Veblen, Commons and Ely, has long been hailed as one of the classic exponents of the evolutionary, socio-historical, institutional approach to economic development. What is probably far less widely appreciated is the fact that Marx quite rigorously exploited all other methodological approaches, even though he did subordinate them to the evolutionary methodology. Functionally, for example, he stressed not only the key role played by the capitalists (defined in broader terms than Schumpeter's entrepreneur) in development, but also the crucial part played by their opposites, the proletariat, in breakdown. Psychologically, he emphasized the overpowering motivation of the capitalist to accumulate and through accumulation to reap profits, which would insure still further accumulation. Marx, additionally, related all psychological attributes to their cultural context and viewed the capitalistic class—to an excessive degree—as a mere reflection of the cultural setting. Structurally, Marx uncovered—at least to his own satisfaction—any number of quantitative inconsistencies in the money flows of a capitalistic economy. The most basic inconsistencies arise out of the rising organic composition of capital, the constant rate of surplus value and the subsistence level of wages— inconsistencies which turn out fortunately on empirical grounds to be inconsistent within themselves. Marx's structural inconsistencies, in the final analysis, produce the internal contradictions which eventually bring about the massive institutional changes so characteristic of his system.

The basic conclusion which grows out of the analysis of the three major historical theories of economic development, namely, the Classical, the Schumpeter-

ian and the Marxian theories, is in no way startling; but it is not lacking in import. The conclusion may be stated as follows: The formulation of a general theory of economic development will require the fullest utilization of all the basic methodological approaches; but, of course, methodological universality offers no guaranty of sound theory. The importance of utilizing all possible approaches in the formulation of a general theory of development finds support in those discrepancies of the Classical and Schumpeterian theories that are directly attributable to the failure of their formulators to exploit all of the major methodological approaches. The Classical economists neglected entirely the evolutionary approach and did not explore the cultural foundations of the Principle of Population. Also Schumpeter eschewed the evolutionary approach—at least for a matter of decades—and even then did not carefully integrate it with the functional approach. Furthermore, Schumpeter did not bother to relate entrepreneurial motivation to its cultural context, thereby raising perplexing questions concerning the cultural specificity of his theory. The sweep, imaginativeness and rich insight of the Marxian theory also lend support to that part of the general conclusion which calls for breadth in methodological approach; for Marx, above all others, rigorously exploited all of the major methodological approaches to development. On the other hand, the overrationalization, the faulty logic and the many inaccurate predictions of the Marxian theory indicate that methodological virtuosity is no insurance of a valid theory of development. In fact, methodological universality will tend to increase the demands upon the intellectual capacities of social scientists. It hardly seems, however, that this challenge should be left unanswered.

The future route leading to a general theory of economic development has not been mapped in detail.<sup>12</sup> Nor will any substantial effort be made in this brief article to tackle in a head-on fashion this most formidable of tasks. A few methodological "pointers" that fall somewhat outside the boundaries of general methodological approaches appear justified, however, in way of a conclusion.

A requirement of the highest priority imposed upon researchers in the field of development is to discard the customary assumptions that apply in short-run theoretical analysis; namely, that capacity, technology and the social and political framework are fixed. The number of variables which the relaxation of these assumptions permits to influence development is terrifyingly great. This ineluctable fact imposes a second vital requirement upon the researcher; to wit, the concentration of attention upon the generally controlling variables. Rostow, for example, selects six key propensities as areas in which investigation should be centered: (1) the propensity to develop fundamental science, (2) the propensity to develop applied science, (3) the propensity to accept innovations, (4) the propensity to seek material advance, (5) the propensity to consume and (6) the

<sup>12</sup> To the writer's knowledge Professor Rostow in his *The Process of Economic Growth* has faced this problem most squarely and has made the greatest contribution toward its resolution. The discussion which follows leans rather heavily on Professor Rostow's book. To a considerably lesser degree the discussion is influenced by Keirstead's, *The Theory of Economic Change*.

propensity to reproduce. It is apparent that a penetrating understanding of these broad propensities is impossible without a far more profound knowledge of human motivation and of the interrelationships between social institutions and individual behavior patterns than are currently available. The burden upon psychologists, cultural anthropologists and sociologists to make basic findings in this sector are heavy indeed. The burden upon economists to integrate these findings with their own researches will be only a little lighter.

A third formidable requirement imposed upon the social scientist working in the field of development is to give—whenever possible—quantitative expression to the key propensities selected for analysis and to find ways of relating these functions to current levels of performance. It is here that the economist is making his basic contribution and, it is to be hoped, will continue to set the pace of research. The development of national income accounting, international balance of payments accounting, input-output analysis, flow-of-funds analysis and econometric analysis in general is giving quantitative specificity to concepts that at one time were deemed immeasurable. Undoubtedly historico-empirical analysis has also much to contribute. As new conceptual frameworks become available, history can be restudied to verify and cast light on relationships hitherto overlooked. Recent history should be especially productive of useful insights as the historical record becomes more complete and accurate.

A final research requirement in the field of development, which cannot bear too much repetition, and which must receive more than mere lip service, is the need for constant integration and synthesis of the ideas contributed by disparate social disciplines. The problem appears as a technical rather than a philosophical one. But the responsibility for synthesis cannot be routinely delegated by the individual social scientist to interdisciplinary teams, even if they were at his call. Partial conceptions do not automatically yield more general conceptions simply because they are voiced in unison by a group of complementary experts. Only the broadly disciplined mind can create the higher abstractions which we seek.

# RAIL FREIGHT DATA: A TOOL FOR MARKET AND REGIONAL ANALYSIS\*

JERE W. CLARK

*University of Chattanooga*

## I. INTRODUCTION

The chief objective of this paper is to illustrate the usefulness of the *Carload Waybill Statistics* of the Interstate Commerce Commission in market research. Attention is centered on two tasks of regional analysis: (1) describing the outer limits of a region's market areas; (2) determining the region's pattern of specialization and exchange with other regions. Rail commodity statistics are valuable for these purposes not only because they represent more than one-half of the nation's intercity land freight tonnage, but also because rail freight typically consists of longer shipments than does highway freight.<sup>1</sup>

A secondary objective of this paper is to indicate how the statistical description of rail commodity movements might be fitted into the broader problem of formulating a functional conception of the geographic structure of an economic system.

Despite the facts that the Waybill statistics are greatly needed in market and regional analysis, and that they are available free of charge, they seem to have been used very little in market and regional analysis. In most of the few market research publications using this information that have come to this writer's attention, the Waybill statistics have been used mainly to catalogue commodities shipped out of and into a state and to show the corresponding states of destination and origin respectively.<sup>2</sup>

\* The author wishes to acknowledge his indebtedness to the sponsors of two of his earlier monographs on which most of this paper is directly or indirectly based. The first is a doctoral thesis written at the University of Virginia under the auspices of the Bureau of Population and Economic Research at that institution. Suggested and directed by Professor Rutledge Vining, it is, *Commodity Flow Interconnections within the United States as Reflected in the Carload Waybill Analyses of the Interstate Commerce Commission, 1949-1950*, University Microfilms, Ann Arbor, Michigan, 1954. The other, *The Market Structure of West Virginia Industry: A Study of Rail Freight Shipments, 1948-1952*, was sponsored and published by the Bureau of Business Research, West Virginia University, Morgantown, 1955.

<sup>1</sup> The Interstate Commerce Commission estimated that in the United States in 1951 ton-miles of freight hauled by railways were approximately five times as great as for highways (for hire and private trucks). (See Bureau of Transport Economics and Statistics, Interstate Commerce Commission, *Monthly Comment on Transportation Statistics*, Washington, D. C., October 17, 1952, p. 2). The ratio of rail to highway tonnage would be considerably below five to one because of the longer average distances of the rail freight shipments.

<sup>2</sup> Two examples of this type of project are (1) "The Iowa Economy as Portrayed by Rail Freight Traffic Movement," *Iowa Business Digest*, Bureau of Business and Economic Research, State University of Iowa, Iowa City, December 1951; and (2) Edwin H. Lewis, *Minnesota's Interstate Trade*, University of Minnesota Studies in Economics and Business, (Minneapolis, Minn: University of Minnesota Press, 1953).

These data have also been used to a limited degree in some of the interregional "input-

*Nature of Data.* The Interstate Commerce Commission's *Carload Waybill Analyses* represent a one per cent random sample of the rail carload shipments by Class I railways in the United States, for each of the five years 1948-1952. The following information is given annually for each shipment of each of 260 commodity classes: (1) state of origin; (2) state of destination; (3) number of tons; (4) average length (short-line) of haul; and (5) average freight revenue per 100 lbs. The 260 commodity classes are grouped together into the following five commodity groups for which summary statistics are given: products of mines, products of forests, products of agriculture, animal products, and manufactures and miscellaneous. By using *The Standard Industrial Classification Manual* of the United States Bureau of the Budget<sup>3</sup> the 260 commodity classes can be regrouped into industry groups and sub-groups.<sup>4</sup>

*Organization and Scope of Study.* In order to illustrate the usefulness of the Waybill data for the practical purpose of studying the competitive position of one geographic area in national markets, the commodity-flow pattern of West Virginia will be summarized for the five-year period, 1948-1952, in Section II. In section III are formulated some tentative empirical generalizations regarding rail commodity flows of eight states: Virginia, New York, Michigan, California, Colorado, Alabama, Rhode Island, and West Virginia. The final section (IV) represents an effort to describe the possible contribution of this type of empirical work to the broader problem of developing a theoretical conception of geographic market structure.

## II. CONCRETE DESCRIPTION OF ONE STATE'S RAIL TRAFFIC

As an example of how the Waybill data can be used to study concretely and practically the competitive position of a state's industry in national markets, let us consider the case of West Virginia. This state's general traffic pattern is in many ways typical of the patterns of the other states, while its geographic location makes it suitable for showing the directional character of commodity shipments from and to the Northeast, South, and West. The facts that West Virginia's income from national markets is closely tied to the sale of one product (coal), and that these sales declined during the period under consideration (1948-

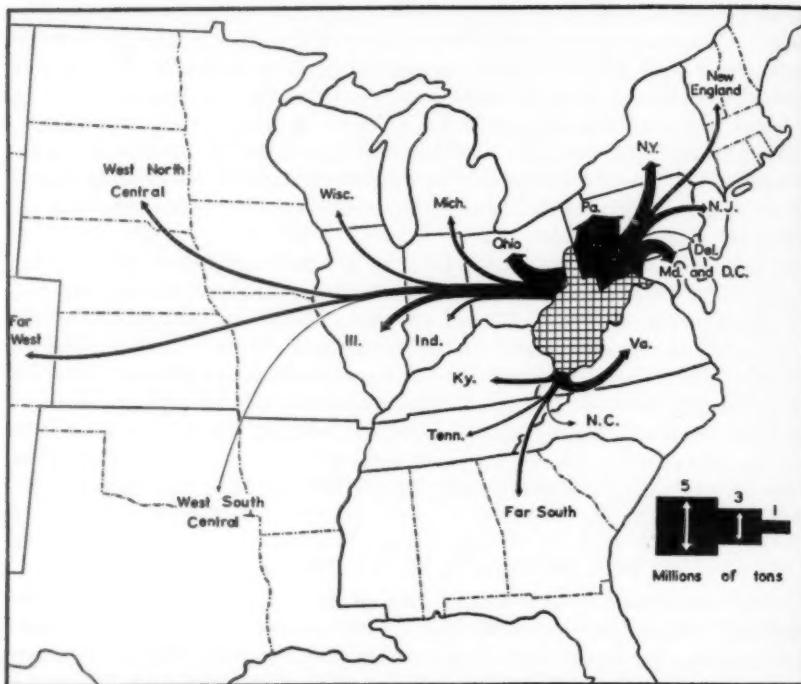
output" studies along the lines developed by Professor W. W. Leontief. See, for example, Walter Isard, "Regional Commodity Balances and Interregional Commodity Flows," *American Economic Review*, May 1953, XLIII, pp. 176-80.

<sup>3</sup> Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C., December, 1954 (2 volumes).

<sup>4</sup> The Waybill statistics are released in the form of processed (mimeographed) "statements." Copies of the various Waybill statements may normally be obtained when available by filing application with the Interstate Commerce Commission, Bureau of Transport Economics and Statistics, Washington 25, D. C.

For a more detailed description of these data and the sampling procedure, see R. Tynes Smith, III, "Technical Aspects of Transportation Flow Data," *Journal of the American Statistical Association*, June 1954, Vol. 49, No. 266, pp. 227-39. For a statement of the limitations of these data for market and regional research purposes, see Clark, *Commodity Flow Interconnections . . . , op. cit.*, pp. 14-15.

Destinations of Rail Freight Tonnage Shipped From West Virginia,  
All Commodities Except Bituminous Coal, 1952



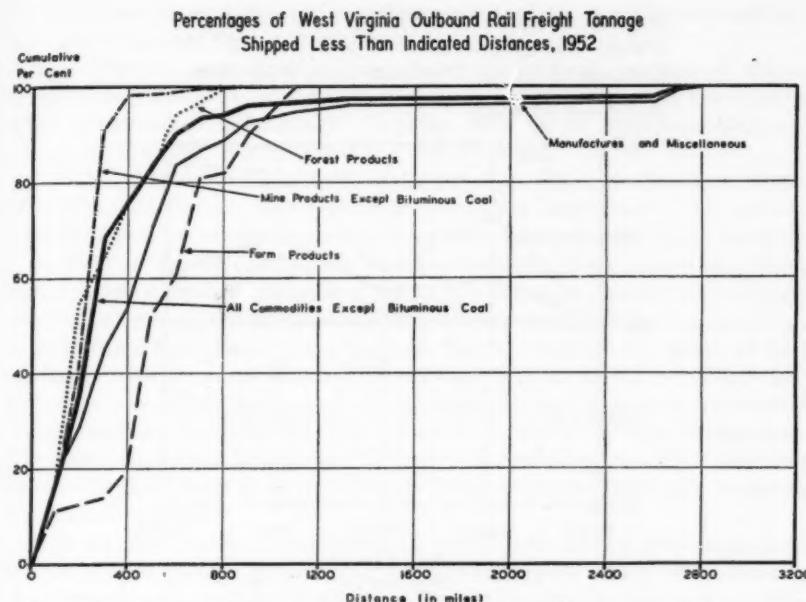
Source: Computed from Interstate Commerce Commission, *Carload Waybill Analyses*, 1952.

FIGURE 1

1952), make this state's commodity-flow pattern an interesting case of adjustment to changing competitive conditions.<sup>5</sup>

*Composition of Freight Shipments.* West Virginia's rail freight includes a wide variety of raw materials, semi-processed and manufactured items. Raw materials and semi-processed products constitute the major part of this tonnage. The number of tons is constantly changing from year to year with changes as great as 10 per cent being fairly frequent. These changes generally seem to correspond roughly with the level of business activity in the nation and with the output of the coal industry. Over the five-year period, 1948-1952, the trend for outbound tonnage was slightly downward, while that for inbound tonnage was slightly

<sup>5</sup> Most of the following description of West Virginia's rail freight is based either directly or indirectly on the monograph referred to above, *The Market Structure of West Virginia Industry: A Study of Rail Freight Shipments, 1948-1952*. Figures 1-3 were reproduced from that study with the permission of the Bureau of Business Research, West Virginia University.



Source: Computed from Interstate Commerce Commission, Carload Waybill Analyses, 1952.

FIGURE 2

upward. The commodity group composition of freight going to or coming from any specific geographic direction (South, etc.) seems to remain relatively stable from year to year, however.

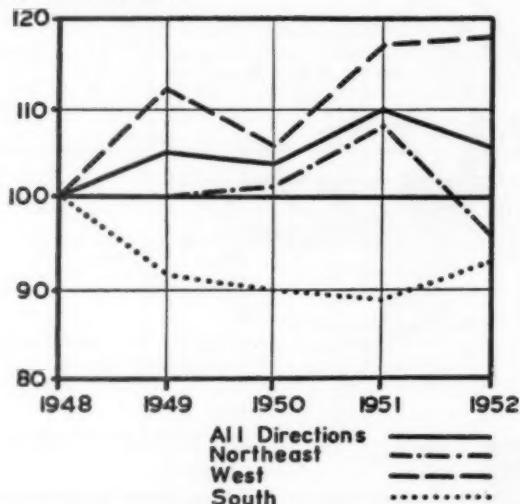
*Location of Market Areas.* A general impression of the over-all pattern of destination points of all rail freight (except bituminous coal) originated in West Virginia in 1952 is provided by Figure 1. The widths of heavy black lines on the map indicate the relative volume of traffic shipped to any given area in each of the three general directions, northeast, west, and south. A similar map representing the state's inbound traffic, but not shown here,<sup>6</sup> portrays a similar over-all pattern. Although no definite trends in the (geographical) directional patterns of traffic are evidenced between 1948 and 1952, the South seems to be gaining in importance for both outbound and inbound tonnage, especially manufactured products.

*Extent of Market Areas—Distance of Shipment.* West Virginia's outbound traffic in All Commodities Except Bituminous Coal was shipped a slightly shorter distance than the national average of 335 miles. Its inbound tonnage traveled an average distance of approximately 270 miles or about twenty per cent less than the national norm. A more detailed picture of some of the overall distance patterns are shown by the statistical frequency curves of Figure 2. Each curve

<sup>6</sup> See *ibid.*, p. 12.

Average Distances of West Virginia Outbound Rail  
Freight Tonnage, by Direction of Shipment, All  
Commodities Except Bituminous Coal, 1948-1952

Per Cent of 1948



Source: Computed from Interstate Commerce Commission, *Carload Waybill Analyses*, 1948-1952.

FIGURE 3

shows what proportion of the total tonnage represented is shipped less than any specified distance.

West Virginia's selling market may be expanding geographically while its buying market is contracting. This conclusion is suggested by the fact that the average distance of outbound shipments increased gradually from 1948 to 1952, while that for inbound traffic generally declined. Figure 3 shows the relative changes in outbound distances for individual directions as well as for the aggregate.

III. STATISTICAL GENERALIZATIONS ON RAIL TRAFFIC OF ENTIRE NATION  
AND EIGHT INDIVIDUAL STATES

A number of the characteristics of the rail freight traffic of West Virginia described above also characterize in a general way the traffic of other states and the nation as a whole. In this section we shall note some of these characteristic similarities with a view toward preparing the way for the more abstract conceptions of the section which follows.<sup>7</sup> In approaching these generalizations, however,

<sup>7</sup> A substantial portion of the materials presented in this section are based on the present writer's doctoral thesis referred to above which is a statistical study of the I. C. C. Waybill data for the nation as a whole and for Virginia, New York, Michigan, California, Colo-

we must keep in mind limitations of the survey analysis on which they are based and hence consider them as tentative.

The following generalizations seem to characterize all or most of the rail freight traffic patterns for the nation as a whole and for each of the following eight states taken individually: Virginia, New York, Michigan, California, Colorado, Alabama, Rhode Island, and West Virginia.

1. Most of the rail freight traffic is shipped short distances. This fact suggests that a community or state ordinarily provides a large part of its economic livelihood and is dependent on adjacent states for a large fraction of the remainder.

2. Most of the frequency distributions describing the distance-of-shipment patterns for individual states and the nation appear to have a characteristic over-all pattern. The relative densities rise sharply from nothing at zero miles to a peak within 400 miles. Beyond this peak the density generally tapers off fairly gradually with increased distance. When these aggregates for individual states or for the nation are broken down into specific commodity groups, the resulting distributions have a shape and position basically similar to those shown above. The national distributions of most of the 260 individual commodity classes tend to have a similar form or shape, although the density peak frequently is situated far beyond 400 miles.

3. A marked degree of stability from year to year characterizes most of the frequency distributions considered in the present report. The over-all shapes of the curves remain practically constant. The positions of the cumulative relative frequency curves typically shift to the right or left very little.

4. Several statistical findings of this study indicate that each commodity may have its own "market area." Hence, a severe restriction is imposed on the idea of a "market region" for a community as being delimited by a definite geographic "boundary line." A frequency distribution formed by classifying the 260 I. C. C. commodity classes according to any one of the following three criteria virtually constitutes a continuum and exhibits a characteristic form somewhat similar to the logarithmic normal distribution: (a) average length of haul, (b) median distance of haul, and (c) proportion of total carloads of the commodity shipped more (or less) than a designated distance.\*

5. The commodity-class composition of rail freight traffic for all states is similar within the short end of the distance scale but is decidedly different in the long end where the commodity specializations of a state are normally reflected. For example, in the short end of the distance range of practically all states are found such widely used, ubiquitous commodities as sand, gravel and scrap metal.

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rado, Alabama, and Rhode Island. The remainder of these materials are based on the writer's unpublished statistical computations from these same data.

\* Relative frequency distributions of the average distances of these commodity classes hauled in the nation, first quarter, 1947, 1948, 1949, 1950 are presented by Professor Rutledge Vining in "Delimitation of Economic Areas: Statistical Conceptions in the Study of the Spatial Structure of an Economic System," *Journal of the American Statistical Association*, March 1953, p. 58. Charts showing similar distributions for the median distances and the proportion of total shipped more than a specified distance are presented in Clark, *op. cit.*, pp. 36-44.

In the long end of the distance scale are found the specialized items like fresh fruits and vegetables for California, automotive products for Michigan, glass and chemical products for West Virginia and cigarettes and furniture for Virginia. Generally speaking, the more specialized or concentrated the production of a given widely distributed commodity, the longer is its average distance of shipment.

6. The two preceding conclusions (numbers 4 and 5) suggest the possibility of classifying products according to the spatial range of their market. For example, such commodities as citrus fruits which are widely distributed and whose production is highly specialized would be labeled long-range products; such commodities as sand or gravel whose production is highly localized would be called short-range commodities.

#### IV. ROLE OF RAIL FREIGHT TRAFFIC ANALYSIS IN FORMULATING A STATISTICAL THEORY OF REGIONAL ECONOMIC STRUCTURE

The transport and communications networks of an economic system take on especial significance when viewed as the threads which interlace the concentrations of population, production and consumption into a system. The system of units is oriented around the spatial distribution of family units operating in the capacities of (1) consumers and (2) producers who together might be called the basic actors of the system. The economic activities of the nation are reflected in the exchanges of goods (and money payments) between these two groups. This exchange activity customarily involves the physical movement of goods through geographic space. Any operational conception of spatial structure must be consistent with the empirical statistical descriptions of the geographic orientation of both family units (acting as producers and customers) and commodity-flow interconnections.

Professor Rutledge Vining is working toward integrating the findings of recent empirical research on several phases of spatial economic structure into a statistical conception of economic structure.<sup>9</sup> This approach involves adopting a statistical conception of the geographic orientation of producing and consuming units and of their commodity-flow interconnections. Instead of looking at one firm or one consumer or one city or one commodity shipment at a time, the idea is to describe averages (and other statistical measures) of thousands of them. The object of analysis is to specify characteristic statistical measures of spatial economic structure in terms of overlapping density patterns or configurations. An economic system is viewed as an overlapping and functionally related system of metropolitan communities, each consisting of a central city and its hinterland or surrounding area of dominant influence. Each density function is oriented about a metropolis.

The density configurations are of two broad types: (1) those that describe the spatial dispersion of consuming and producing units (families and firms) within the system; and (2) those that represent the spatial distribution of the movements

<sup>9</sup> For a more detailed and rigorous outline of this type of theory than is given below, see Vining, *op. cit.*, pp. 52-64.

of economic goods within the system. A frequency distribution describing population density for a metropolitan center shows how the density of population changes as distance from the metropolis increases. Similarly, a density function can describe the density pattern of each of the many kinds of business activities such as wholesale, retail and manufacturing.

The marked degree of similarity among the empirical distributions described in this paper led to the beginning of efforts to find a type of theoretical distribution which fits (or at least approximates) them all. (See conclusions numbered 2 and 3 in Section III above.) If one type of theoretical distribution could be fitted to all of these empirical ones the problem of describing the commodity flows for a nation would be greatly simplified. This would mean that the whole of any distribution could be approximated in a probability sense by specifying two, or a few, parameters. Although the parameters would be different for the various commodities and regions, the over-all shape or type of distribution would be the same. If these parameters were found to be stable from year to year, or to change in a predictable way, the basis for making operational predictions for subsequent time periods would have been laid. The writer has done some preliminary experimentation working with the logarithmic normal and with the Gibrat distributions. Although progress toward this specific goal has been limited, the experimental work suggested that future research directed toward fitting a theoretical distribution to the empirical data may prove to be fruitful.

## REGULATION AND THE PRICE OF NATURAL GAS

MARSHALL C. HOWARD

*University of Massachusetts*

The price of natural gas in the field has been steadily increasing in the last few years. Whereas the average field price of gas in the major producing states of Kansas, Louisiana, Oklahoma, and Texas was 3.1 cents per Mcf in 1945, it was an estimated 8.9 cents in 1954 with prices ranging up to 24 cents on new long-term contracts.<sup>1</sup> Less than a decade ago the price of natural gas in the field was thought by many observers to be "too low," that it was not selling for its "intrinsic" or relative value in terms of other fuels.<sup>2</sup> Development of efficient methods of producing and laying high-pressure seamless pipe have made possible the tremendous growth in the interstate natural gas pipeline network and the increase in effective demand and use of natural gas during the last decade. Pipelines now reach out from the basic supply source of the Southwest to all corners of the nation.<sup>3</sup> Now consumers tied to the Southwest by thousands of miles of interstate transmission pipelines, fear the price may be rising "too high."<sup>4</sup>

Prior to the increase in effective demand and use, large quantities of natural gas were flared or sold for "inferior" industrial uses such as boiler fuel or the production of carbon-black.<sup>5</sup> The reasons for such disposal of a potentially valuable resource were the conditions surrounding its discovery and extraction and the fact that the "superior" demands were largely ineffective.<sup>6</sup> Gas has been

<sup>1</sup> Senate Committee on Interstate and Foreign Commerce, *Hearings, Amendments to the Natural Gas Act*, (hereinafter cited as *Hearings*) (84th Cong. 1st Sess., 1955), pp. 1268, 1623.

<sup>2</sup> See, for example, F. F. Blachly and M. E. Oatman, *Natural Gas and the Public Interest* (Washington: Granite Press, 1947) p. 47; and Federal Power Commission, Docket No. G-580, *Natural Gas Investigation*, Report of Commissioners Smith and Wimberly, 1948, pp. 175-83, 190-93.

<sup>3</sup> At the end of 1953 Texas held 50.4 per cent of the nation's reserves; Louisiana, 16.3; New Mexico, 8.3; Kansas, 7.5; and Oklahoma, 5.8. From D. S. Colby, B. E. Oppegard, and L. V. Harvey, *Natural Gas*, preprint from Bureau of Mines Minerals Yearbook, 1953, p. 3. Other supply sources such as the Appalachian and California fields can do no more than maintain existing service.

<sup>4</sup> See especially *Hearings, op. cit., passim*. The price of gas in the fields of the Southwest is approximately 10 per cent or less of the ultimate price to the consumer in the North and the Northeast. See House Report 992, *To Amend the Natural Gas Act, As Amended* (84th Cong. 1st Sess., 1955), pp. 18-41, or Senate Report 1219, *Amendments to the Natural Gas Act* (84th Cong. 1st Sess., 1955), pp. 43-67.

<sup>5</sup> Natural gas yields a low-value output per Mcf input in carbon-black production. About 70 per cent of the carbon-black industry was located in Texas in 1950, to which it was attracted by the low prices of natural gas, being driven out of the Appalachian area as more markets for natural gas appeared in the latter region. Now, the use of natural gas as a raw material for the production of carbon-black is declining. See J. R. Stockton, R. D. Henshaw, Jr., and R. W. Graves, *Economics of Natural Gas* (Austin: University of Texas, 1952), pp. 27-35; Colby, Oppegard, and Harvey, *op. cit.*, p. 14; and the President's Materials Policy Commission, *Resources for Freedom*, (Washington, 1952) Vol. I, p. 114.

<sup>6</sup> The President's Materials Policy Commission defined "special advantage" uses as

found largely as a result of the exploration of oil.<sup>7</sup> Once discovered it cannot economically be stored except in the ground; and most of the costs of production have been incurred. Because of its fugacious nature well owners have withdrawn the gas and sold it for whatever possible over variable cost rather than see other well-owners drain it out from under them. Where gas is found in association with oil it can be used in maintaining the pressures necessary for the recovery of the oil, but this function having been performed, it has often simply been flared into the air for lack of a market.

State conservation laws have now provided limitations on several forms of waste.<sup>8</sup> And annual additions to supply by discovery have been exceeding annual production. But the additions to supply have not prevented the life index from slowly declining.<sup>9</sup> With much of the flush producing areas already committed by contract, new large-volume, long-term supplies usually have to be secured from several areas and several producers.<sup>10</sup> The discovery of new supplies is essential if prices are not to rise rapidly. Nevertheless the cost of new supplies is likely to increase as drills must go deeper or new discoveries are of smaller and more scattered fields.<sup>11</sup>

Consumer interests have urged that producers of natural gas in the field be regulated in the traditional public utility fashion—the rate-base method whereby a fair return only is allowed on investment properties fairly valued. The other stages of the industry are, generally, so regulated: the local distribution compa-

“... those for which consumers are willing and able to pay a higher price for natural gas than for other fuels, on a contained energy basis, because of its superior convenience or performance in the particular use.” Listed in this category are household and commercial heating, cooking, specialized industrial uses like heat-treating, and certain chemicals production. *Ibid.*, p. 112. In 1950 special advantage uses absorbed only about 40 per cent of total marketed production exclusive of field use. *Ibid.*, Vol. III, p. 20.

<sup>7</sup> *Ibid.*, Vol. III, p. 2. But about 70 per cent of natural gas reserves are of gas non-associated with oil. Colby, Oppgaard, and Harvey, *op. cit.*, p. 3.

<sup>8</sup> See Blakely M. Murphy, ed., *Conservation of Oil & Gas, A Legal History, 1948* (Chicago: American Bar Association, 1949). For more detail, see Stockton, Henshaw, and Graves, *op. cit.*; Basic Proration Order for the Hugoton Gas Field, State Corporation Commission (Kansas), Docket No. C-164, July, 1951; General Rules and Regulations for the Conservation of Crude Oil and Natural Gas, State Corporation Commission (Kansas), November, 1954; General Rules and Regulations, Order No. 19334, October 24, 1946, Corporation Commission of Oklahoma. State production conservation regulations, with variations from state to state, have established requirements as to such operations as prorationing, ratable take, oil-gas ratios, well-spacing, drilling and plugging of wells, recycling, repressuring, and flaring.

The prevention of some flaring is uneconomic, but flaring has been reduced to 10 per cent of production. *Resources for Freedom, op. cit.*, Vol. I, p. 112.

<sup>9</sup> The life index, computed by dividing remaining recoverable reserves by current annual production, has declined from 32.49 years in 1946 to 22.11 years in 1955. In 1955 net production was 10,118,118,000 Mcf; a net addition to supply of 11,986,713,000 Mcf raised recoverable reserves at the end of the year to 223,697,445,000 Mcf. From 1946 on, the annual ratio of discoveries to net production has been around 2.0. *Hearings, op. cit.*, pp. 1740-41, 1800, and American Gas Association, Release, March 15, 1956.

<sup>10</sup> House Report 992, *op. cit.*, p. 75.

<sup>11</sup> Stockton, Henshaw, and Graves, *op. cit.*, pp. 93, 124.

nies by state regulatory commissions where they exist, and the interstate transmission companies by the Federal Power Commission under the Natural Gas Act of 1938. Production, except for that of the integrated pipeline companies, remained entirely free of federal regulation until June 1954 when the Supreme Court in the *Phillips Petroleum* decision ruled that the producers and gatherers of natural gas for resale in interstate commerce for resale were "natural gas companies" subject to price regulation under the Natural Gas Act of 1938.<sup>12</sup> The regulation of over 4,000 producers of natural gas in the field was thus placed in the hands of the Federal Power Commission. Prior to this decision Commission regulation had been extended only to the integrated production properties of interstate pipeline companies.<sup>13</sup>

#### THE RATE-BASE METHOD OF PRICE DETERMINATION

In its jurisdiction over the production properties of integrated interstate pipeline companies, the Federal Power Commission, until its own opinion in the matter of *Panhandle Eastern Pipe Line Co.* in April 1954, had utilized the traditional rate-base method of rate regulation. A "fair return" was allowed on "fair value" of net investment, on the basis of original cost less reserves for depreciation and depletion. Recoverable costs of service included all production operating expenses including uncapitalized exploratory and developmental outlays such as delay rentals, geological surveys, and the expenses of drilling dry holes. Only actual taxes on the production properties were allowed.<sup>14</sup>

Traditional public utility rate regulation has been applied to industry where it has been thought that consumers needed protection against a "natural monopoly." Supply conditions in the natural gas fields are, in certain respects, monopolistic. The demand and supply forces are not those of an open market. The consumer demand (via pipeline) exerts its impact on the supply in the field by way of long-term contracts. Twenty-year contracts are common. The Federal Power Commission in the granting of certificates of public convenience and necessity insists on proof of adequate market demand and of supplies to meet that demand for a period of several years.<sup>15</sup> The bargaining is between the added demand of prospective pipeline capacity and undedicated supplies. Further, some concentration of control exists in the field. Of the 4,365 independent (non-integrated, producers selling supplies entering interstate commerce in 1953, 3,736, or 85.6 per cent, sold 2.1 per cent of the total. Five independent producers accounted for 27.0 per cent of the volume of sales; twenty-nine sold 63.2 per cent. Many of the larger ones were oil companies.<sup>16</sup> In addition, the bargaining of all separate entity producers in a given field is conducted in effect as a unit. Unitiza-

<sup>12</sup> *Phillips Petroleum Co. v. State of Wisconsin, City of Detroit, et al.*, 347 U. S. 672 (1954).

<sup>13</sup> *Colorado Interstate Gas Co. v. Federal Power Commission and Canadian River Gas Co. v. Federal Power Commission*, 324 U. S. 581 (1945).

<sup>14</sup> *In the Matters of Panhandle Eastern Pipe Line Company, et al.*, Docket No. G-1116, et al., Federal Power Commission Opinion 269, April 15, 1954, p. 30.

<sup>15</sup> The Federal Power Commission has generally required that a certain number of years' supplies, usually twenty, be reserved for a particular pipeline. *Resources for Freedom*, op. cit., Vol. III, p. 23. See *Hearings*, op. cit., pp. 1596-1619, for data on contract terms.

<sup>16</sup> House Report 992, op. cit., p. 75, and *Hearings*, op. cit., p. 1639.

tion can be arranged in some states, but is not generally practiced. But in order to protect the correlative rights of the separate producers in a given field, some state authorities have established requirements for prorationing and/or ratable takings.<sup>17</sup> With such protection an individual well-owner can expect to receive the "going" field price. In this last sense, as far as one field is concerned, a "natural monopoly" does exist. Nevertheless, a "fair return on fair value" formula based on "natural monopoly" itself cannot be meaningfully applied to the production of natural gas, for it is still a fact that there are several independently organized and bargaining sources of supply.

Perhaps of more importance, each supplier does not have complete control of his costs. One may be luckier than another. On the average, for every five wildcat wells (exploratory for new discovery) drilled, approximately four are dry.<sup>18</sup> Justice Jackson has referred to the search for gas as being akin to gambling. "The service one renders to society in the gas business is measured by what he gets out of the ground, not by what he puts into it, and there is little more relation between the investment and the results than in a game of poker."<sup>19</sup>

The rate-base method provides for prices differentiated according to costs: the (original) cost of the investment and the current cost of production. The "bonanza" or "windfall" profits of a lucky speculation are erased. The costs of unlucky speculations are passed on to the consumer, except where the resulting price is so high as to be noncompetitive or where risk-bearing is reduced to the peril that no gas at all be found. In shifting the costs, which may vary from field to field, from well to well, and even among owners of the same well according to the terms of the drilling agreement, this formula does not always result in a "going" price which might be said either to simulate competition or represent the "intrinsic" value of the resource in comparison with competitive fuels.<sup>20</sup> The results, rather, have been termed "delirious" or "capricious."<sup>21</sup> An identical product in the same location may bear more than one price. And the rate-base itself can, conceivably, vanish.

Should the value of service be measured by what the entrepreneur puts into the ground, or by what he gets out of the ground? Most of the supply of gas is available as a result of the search for oil. But the chance for a large (speculative) profit should induce more search, including gas for its own sake. The rate-base method in itself does not assure expansion of available supply; but manipulation of the per cent return allowed, that is, adjustment of the "fair return," might.<sup>22</sup>

<sup>17</sup> The opinion has been expressed that prorationing cannot be practiced without ratably taking at the pipe line when the gas is put to the trunkline. In Murphy, ed., *op. cit.*, p. 169.

<sup>18</sup> See Senate Report 1219, *op. cit.*, p. 26.

<sup>19</sup> *Federal Power Commission, et al. v. Hope Natural Gas Co.*, 320 U. S. 591, 649 (1944).

<sup>20</sup> For different types of producing deals see John G. McLean and Robert W. Haigh, *The Growth of Integrated Oil Companies* (Boston: Harvard University, 1954), pp. 392-413.

<sup>21</sup> Justice Jackson, in *Colorado-Interstate Gas Co. v. Federal Power Commission, et al.* and *Canadian River Gas Co. v. Federal Power Commission*, 324 U. S. 581, 610.

<sup>22</sup> It is a possibility that application of the rate-base method to the production properties of integrated pipeline companies has served as a deterrent to vertical integration. Whereas in 1947 interstate pipeline companies produced, either themselves or through affiliates, some 38.2 per cent of their own natural gas supplies originating in the Southwest

## A COMMODITY-VALUE APPROACH

A commodity-value, or "fair field" or "reasonable market price" method attempts to identify a "going market" or "competitive field" price. (A majority of) The Federal Power Commission had inaugurated the application of a "fair field price" to gas produced by integrated pipeline companies in its *Panhandle Eastern Pipe Line Co.* opinion of 1954 in the belief that the ultimate public interest would thus be best served, through encouragement to discovery and promotion of conservation in production and use.<sup>23</sup> And when the Commission was given jurisdiction over independent producers by the Supreme Court's *Phillips Petroleum* decision two months later, it met this new burden by subjecting to Commission approval all price increases to interstate pipelines.<sup>24</sup> But the attempt of the Commission to use a "fair field price" method (utilizing weighted average arm's length prices of gas at the well-head in the three fields in which the gas was produced) was set aside by the Court of Appeals not on the grounds that the method was not lawful but that the Commission must "always relate its action to the primary aim of the Act to guard the consumer against excessive rates" and that the evidence and findings did not show "that the increase in rates thus caused is no more than is reasonably necessary for the purposes advanced for any increase" (encouragement of exploration and development of gas resources and vertical integration by pipelines).<sup>25</sup> The case was remanded to the Commission to enable it, if it wished, to supplement the record findings. Yet the words of the Court would preclude the unconditional use of a "fair field price" method:

Furthermore, it is seen that when we refer to an 'increase' we mean an increase in the rates above those which would result from use of the conventional rate-base method. For, though we hold that method not to be the only one available under the statute, it is essential in such a case as this that it be used as a basis of comparison. It has been repeatedly used by the Commission, and repeatedly approved by the courts, as a means of arriving at lawful—"just and reasonable"—rates under the Act. Unless it is continued to be used at least as a point of departure, the whole experience under the Act is dis-

area (Arkansas, Kansas, Louisiana, Mississippi, New Mexico, Oklahoma, Texas), in 1953 they produced only 19 per cent. Yet, in absolute terms, production of gas and amounts spent on exploration and development by interstate pipeline companies and their affiliates has increased. *Hearings, op. cit.*, pp. 1630-31, 1636. Following the Federal Power Commission's dropping of the rate-base method in 1954, a "noticeable effort" of pipeline companies to acquire their own gas reserves was reported. J. J. Hedrick, "Regulation vs. Pipe Line Production," *Gas Age*, April 21, 1955, p. 44.

<sup>23</sup> FPC Opinion 269, *op. cit.*, pp. 30-32.

<sup>24</sup> See Federal Power Commission, Order No. 174 series.

<sup>25</sup> *City of Detroit v. Federal Power Commission and County of Wayne, Michigan v. Federal Power Commission*, Court of Appeals for the District of Columbia, December 15, 1955, pp. 5, 11-15. A third purpose advanced by the Commission, promotion of conservation through prevention of accelerated consumption, was not deemed by the Court to be within the proper consideration of the Commission—conservation controls remained to the States. It may be noted that the argument of the majority of the Federal Power Commission in favor of vertical integration in order to increase pipeline bargaining power was advanced before the decision in the *Phillips Petroleum* case was handed down.

carded and no anchor, as it were, is available by which to hold the terms 'just and reasonable' to some recognizable meaning.<sup>26</sup>

Finally, Congressional attempt to overturn the *Phillips Petroleum* decision and remove production from the direct regulation of the Commission, and substitute indirect "reasonable market price" regulation, was thwarted by a Presidential veto in February, 1956.<sup>27</sup>

Arbitrary judgment is required in finding a "fair field" price, for there is no one "going" open-market price even in any one region.<sup>28</sup> Prices to pipeline companies have been required to be on long-term contracts, and new contracts are being signed from time to time. Escalation clauses do, however, tend to keep the prices prevailing in old contracts partially current with newer, higher prices.

Producers have recognized, in the light of the record of rising gas prices, the undesirability of providing supplies for a long term under a fixed price contract. Thus escalation clauses have become prevalent in recent years in contracts of sale. These clauses are of six basic types.<sup>29</sup> One is the two-party favored-nation clause whereby the price is increased if the buyer pays a higher price to another producer in the same field or elsewhere as specified in the contract. A second is known as the third-party favored-nation clause. If a third, unrelated, party pays a higher price, in the same area or elsewhere as specified in the contract, an increase in price will be granted. Under a third type of escalation clause, known as either a price redetermination, price renegotiation, or better-market clause, the contract price is increased if the average of the two or three highest prices paid by pipelines in a given area exceed the contract price. A fourth type, known as the spiral escalator clause, provides for an increase in price if the resale price of the pipeline company shall be increased. A fifth, the step up clause increases the price

<sup>26</sup> *Ibid.*, p. 16. The Court of Appeals recognized (pp. 8-9) that use of the rate-base method is not mandatory, quoting from the *Hope Natural Gas Co.* case (320 U. S. 591, 602): ". . . it is the result reached not the method employed which is controlling . . . If the total effect of the rate order cannot be said to be unjust and unreasonable, judicial inquiry under the Act is at an end. . . . And he who would upset the rate order under the Act carries the heavy burden of making a convincing showing that it is invalid because it is unjust and unreasonable in its consequences." Yet the Court of Appeals denied being inconsistent (pp. 16-17) with the "end result" test of the *Hope* case. "That test was applied in assessing the reasonableness of rates from the company's point of view. . . . The factors comprising the test were enumerated by the Court—successful business operation, maintenance of financial integrity, attraction of necessary capital, and compensation of investors for risks assumed. . . . From the consumer standpoint no such criteria are available."

<sup>27</sup> The Harris-Fulbright bill (S. 1853 and H. R. 6645, 84th Cong. 1st Seas.) was vetoed with ". . . regret because I am in accord with its basic objectives. . . . It (legislation) is needed because the type of regulation of producers of natural gas which is required under present law will discourage individual initiative and incentive to explore for and develop new sources of supply." The veto was based on "highly questionable (lobbying) activities." *The New York Times*, February 18, 1956, p. 6.

<sup>28</sup> A primary reason for Commissioner Draper's dissent in the *Panhandle Eastern Pipe Line Co.* opinion was the lack of any "objective standard," *op. cit.*, dissent, pp. 16-19. It can also be argued that the *rate* of return (or change therein) under the rate-base method is also somewhat arbitrary.

<sup>29</sup> See House Report 992, *op. cit.*, pp. 8-9.

by specific amounts at definite dates in the future. The tax-increase clause is a sixth type, which reimburses the producer for increases in taxes levied on the seller after a specified date. Denial of all escalation price increases accompanied by insistence upon long-term contracts might dampen considerably incentive for search for or conserved use of gas.<sup>30</sup>

Since there is no one "going" open-market price, a market-value determined price would have to rely on reference to several prices in the field as a guide, through, for example, an average (perhaps weighted) field price. Such "reference" price-making would tend to be inflationary. First, price might be expected to cover the full costs of the higher-cost, less-lucky-speculation producers whose output is still in demand in the market at such a price. Second, prices will tend to be drawn upward whenever new higher prices are granted; for, except where such price-making is applied only to a minor part of the total supply, prices become based on each other in a circular fashion. By the same token, however, prices might become stabilized after an initial period of adjustment, with any higher prices being justified only on the basis of new, large-volume, and higher cost production. But the Federal Power Commission would be presented only with requests for approval of price increases; lower prices, conceivable under the rate-base method, would be unlikely to occur.

The producing interests, large and small, have urged the "reasonable market price" method. The motives apparently have been a desire to be free of direct public utility regulation for its own sake, especially where oil and gas production are commonly a joint operation and the regulation of gas might inevitably lead to the regulation of oil, and/or the possibility of enjoying a return higher than, say, a public utility 6 per cent. The risks, in contrast to the rate-base method, are borne by the producers. But entrepreneurial profits are borne by the consumer. And the market structure and organization in the field are likely to yield, on the average, larger than currently allowed public utility returns.

#### INCENTIVE, HIGHER PRICES, AND USE

Traditionally a rate-base method of price determination is justified as a means to protect consumers from "natural monopoly" profits. But monopoly profits are not the same as "bonanza" or "windfall" profits. The rate-base method would rule out the profits of a lucky speculation; but likewise would cover the costs of the unlucky speculation. Is it in this area of risk, uncertainty, and profit that a good part of the incentive for search and new discovery lies? Still, it is difficult to separate out the two profit elements: the rewards for taking speculative risks, and the returns attributable to the imperfections in the market organization.

Entrepreneurial incentive cannot easily be measured. For the very large producer the risks are averaged out. The small producer feels the greatest risk; with successful entry determined partly by luck, and exit sometimes quickly

<sup>30</sup> Escalation clauses of types two and four were not to be considered in support of certificate applications by the Federal Power Commission after May 1, 1955. Federal Power Commission Order No. 174-B, December 17, 1954, p. 7.

forced upon him. Moreover, the factors inducing search for oil have governed, to a large degree, the discovery of gas. But if increased consumption of gas is to be possible, incentives should exist to induce search for gas for its own sake. Integrated oil companies may be driven to incur the costs of exploration by the desire to utilize their total plant facilities and maintain their market position, but gas supplies must exist and become dedicated before the transmission facilities can be constructed.

Where demand is strong, the lucky prospector receives what appears to be an economic surplus. This is true of *any* extractive industry where the price mechanism is relied on. This aspect of mineral development pertains to all land development. But there is need to know how much of apparent surplus is reward for risky venture and how much is economic rent.

An argument can be advanced in static terms for the removal of an economic surplus without altering producers' output plans; but exploration expectations must be viewed in *ex ante* terms. Any gains from pure exploratory activity can be removed on a discriminatory basis without some loss of incentive only where they are distinctly probable. In actual fact bonanza gains for the individual firm are *possible*, but not necessarily *probable*, except where operations are conducted on such a large scale or on such a scientific basis that an average rate of discovery may clearly be anticipated. An appropriate solution to the long-run problem of consumer, as distinct from producer, welfare hangs on better knowledge of the combined impact of depletion allowances, the price provisions of long-term supply contracts, progressive income taxes, and retention of the returns of good fortune on decisions to explore.

Higher prices of natural gas in the field can be expected under either method of pricing. A "fair field price" under "reference" selling, with a continued pressing demand, would tend to be high enough to cover the costs of the least efficient and the least lucky producers. The rate-base method may, to induce discovery of gas to assure growing supplies, have to provide a higher per cent return. And search costs are rising.

Aside from the respective arguments for these two methods of price determination, certain advantages lie in higher prices for natural gas. As gas price increases are shifted to the ultimate consumer, substitute fuels, coal and oil in particular, will become more competitive. (Because of the premium qualities of natural gas, its price may go higher than the prices of the competing substitutes and still be competitive.) If market imperfections (some of which are government-control derived) turn out to be greater in gas production and distribution than they are in coal and oil, then the level of gas prices in the using markets will be *based on* the more competitive fuel prices. Relatively higher prices for natural gas would channel this resource to the higher value ("superior") uses. This higher-value demand would determine the "intrinsic" value—the conservation price which would dictate a high-value use over time. "Inferior" industrial users would turn to substitute fuels, for the management of transmission and local distribution companies would find it more economical to gear their wholesale

sales and purchases to the minimum seasonal level of use than to maximum, or peak, demand.<sup>31</sup> Instead of shaving the peak by dump price (interruptible) sales to industry for boiler fuel, the peak would be met by supplemental supplies. The latter would come from development of storage facilities, especially of local depleted wells, or by preparing "peak load" mixtures of natural and oil (and other) gases. Industrial sales would continue only where special qualities of the gas were important or where natural locational advantages existed for the industrial use of gas.

<sup>31</sup> See Edward G. Boyer, *The Manufactured Gas Position in Present Day Operation*, American Gas Association, Chemical, Engineering and Manufactured Gas Production Conference (mimeo), N. Y., May 23, 1955.

## SOME RECENT DEVELOPMENTS IN UNEMPLOYMENT INSURANCE\*

CAREY C. THOMPSON

*University of Texas*

The state programs of unemployment insurance in the United States will soon be completing twenty years of experience with this type of social insurance.<sup>1</sup> Under the impact of Titles III and IX of the Social Security Act of 1935, these programs were put into effect within a short period of time and we, thereby, moved rapidly from a situation in which unemployment insurance was hardly more than a matter of academic interest to one in which it was in operation on a nation-wide basis. While there was, to be sure, great interest during the depression in any means for mitigating the effects of unemployment in the United States, we had had such scanty experience with unemployment insurance and understood so little about its accomplishments in countries where it had been used that its universal adoption within so brief a span of time must still be judged as one of the most remarkable aspects of the many institutional changes that took place during the 1930's.

During these past two decades many changes have occurred in the scope, nature, and operations of the various state programs, and a respectable case can be made for the contention that these programs are considerably superior to what they were originally. The average number of workers covered by unemployment insurance increased from 19.9 million, or 36 per cent of the civilian labor force, in 1938 to 35.4 million, or 55 per cent of the labor force, in 1954.<sup>2</sup> Average weekly benefits for total unemployment rose from \$10.56 in 1940 to \$24.93 in 1954, the latter being the peak amount reached to that time.<sup>3</sup> The extent to which insurance payments are available to the unemployed during even a minor downturn in economic activity is suggested by the 1954 experience. In this year 6.6 million beneficiaries (the second largest number of any year in our history) received payments under the program, these payments in total amounting to \$2,027 million, an all-time record; the boost to disposable income was substantially above that of the preceding year, when only \$962 million was

\* A paper presented at the Annual Conference of the Southern Economic Association in Atlanta, Georgia, on November 12, 1955.

<sup>1</sup> As is customarily the case in discussions of unemployment insurance in the United States, the term "state" is here used to include Alaska, the District of Columbia, and Hawaii as well as the governmental units ordinarily encompassed by the term.

<sup>2</sup> "V. Developments in UI Coverage, 1935-55," *Employment Security Review*, August 1955, XXII, p. 24. This issue of the *Employment Security Review* is titled "Twenty Years of Unemployment Insurance in the USA." It provides an excellent brief history of the development of unemployment insurance in this country.

<sup>3</sup> "A Review of Unemployment Insurance Activities in 1954," *The Labor Market and Employment Security*, February 1955, p. 26.

paid out, while at the same time the national average employer tax rate of 1.2 per cent of taxable payrolls in 1954 was the lowest in history.<sup>4</sup>

Accomplishments such as these are by no means inconsiderable, and certainly there is no reason to judge our unemployment insurance programs as failures. It is, nevertheless, true that they have been continually subjected to criticism from many sources. Perhaps the best-known of these criticisms in recent years has been that made by President Eisenhower in the *Economic Report* of January 1954. The principal deficiencies which he there pointed out were inadequate coverage, the declining ratio of the average weekly benefit to the average weekly wage in covered employment, the deficiency in duration of benefits provided, and the lack of sources of outside aid for state reserve funds which might approach or reach exhaustion.<sup>5</sup> These criticisms were by no means novel, and the fact that they were still worth reiterating after many earlier offerings indicates that these frailties, if such they may be called, are rather deeply rooted in the nature of our systems. The modest purpose of this paper is to examine briefly the response that has been made to the President's recommendations for changes that would correct the above-mentioned deficiencies, and to note some still more recent comments on the national-state framework within which our unemployment insurance programs operate.

## I

By 1956, some 3.9 million more workers will have come under unemployment insurance coverage because of changes in statutory provisions during 1954 and 1955,<sup>6</sup> but this extension of coverage will be almost entirely the result of Congressional action in reducing the size-of-firm limitation in the Federal Unemployment Tax Act to four-or-more employees rather than eight-or-more (this action to take effect on January 1, 1956) and in extending protection to Federal civilian employees, commencing January 1, 1955, through the State programs but at Federal expense.<sup>7</sup> Only four states have, since the President's recommendations, taken action to reduce the size-of-firm limitation below that required by the change in the Federal law; twenty-eight states still do not extend coverage to employees of firms with fewer workers than those covered by the Federal law.<sup>8</sup> No change of consequence has been made in the definitions of "employment" which might enlarge coverage except for minor additions in four jurisdictions to the number of state and local government employees who can be covered.<sup>9</sup>

<sup>4</sup> *Ibid.*, and "Review of Experience Rating—1954," *The Labor Market and Employment Security*, April 1955, p. 19.

<sup>5</sup> *Economic Report of the President*, January 1954, pp. 96-99.

<sup>6</sup> "V. Developments in UI Coverage, 1935-55," *Employment Security Review*, August 1955, XXII, p. 21.

<sup>7</sup> Public Law 767, 83d Congress, 2d Session, approved September 1, 1954. *United States Statutes at Large*, Volume 68, Part 1, pp. 1130-1135.

<sup>8</sup> "1955 Unemployment Insurance Legislation," *The Labor Market and Employment Security*, October 1955, p. 34.

<sup>9</sup> Clara T. Sorenson, "Effect of Changes in UI Laws on Benefit Rights of Workers," *The Labor Market and Employment Security*, November 1955, p. 1.

After these changes have taken effect some 20 per cent of wage earners (roughly 12 million) will still be denied unemployment insurance coverage, over one-third of these being employees of state and local governments.<sup>10</sup>

The fixing of benefit amounts to be drawn by unemployment insurance beneficiaries is entirely the responsibility of state policy decisions. In 1954 and 1955 thirty-four states amended their laws to permit larger weekly benefit amounts to be drawn by qualified recipients,<sup>11</sup> to that extent moving in the direction of the President's suggestion that ". . . the States raise these dollar maximums so that the payments to the great majority of the beneficiaries may equal at least half their regular earnings."<sup>12</sup> There is, nevertheless, a substantial distance to travel before the President's suggested goal will be reached. There are still six states whose maximum benefit is \$25 or less; as of mid-1955, the average ratio of the maximum weekly benefit amount to the average weekly wages of covered workers in those states was 36.8 per cent; for states with higher maximum allowable basic benefit amounts, up to \$30, this ratio was only slightly higher (less than 40 per cent); even for the states (fourteen of them) which now have maximums of more than \$30, the ratio was only 45.3 per cent.<sup>13</sup> Despite these recent increases in benefit maximums, the extent of protection against wage loss afforded by unemployment insurance at present is less than it was in the early days of the programs; for example, in December, 1939, the maximum weekly benefit in forty-nine states was more than half the average weekly wage in those states, while in June, 1955, the highest benefit was as much as half the average weekly wage (for 1954) in only seven states.<sup>14</sup> Under these conditions the tendency has been toward the practice of having, in effect, a flat benefit amount; 61 per cent of payments made in 1954 were at the maximum payable.<sup>15</sup>

As far as duration of benefits is concerned, only eight states took action in 1954-55 to increase the number of weeks of protection afforded.<sup>16</sup> After these increases were made, twenty-three states still provide less than the twenty-six weeks of maximum duration recommended by the President; four states have maximums of less than twenty weeks.<sup>17</sup> States which have low maximum duration provisions also tend to have low maximum weekly benefits, with the result that there is a wide range in maximum potential benefits for a single benefit year among the states; the low figure here is \$384, and the high is \$1,170.<sup>18</sup> These

<sup>10</sup> "XI. Issues for Tomorrow," *Employment Security Review*, August 1955, XXII, p. 64.

<sup>11</sup> "State Labor Legislation in 1954," *Monthly Labor Review*, November 1954, LXXVII, p. 1221, and Sorenson, *op. cit.*, p. 2.

<sup>12</sup> *Economic Report of the President*, January 1954, pp. 97-98.

<sup>13</sup> "VII. Developments in Benefits, 1935-55," *Employment Security Review*, August 1955, XXII, p. 36.

<sup>14</sup> *Ibid.*, p. 33.

<sup>15</sup> *Ibid.*

<sup>16</sup> "State Labor Legislation in 1954," *Monthly Labor Review*, November 1954, LXXVII, p. 1221, and Sorenson, *op. cit.*, p. 6. One other state changed from a system with uniform duration of 18 weeks to one in which benefits may be drawn for as little as 10 weeks or as much as 22 weeks.

<sup>17</sup> Sorenson, *op. cit.*, pp. 4-5.

<sup>18</sup> "VII. Developments in Benefits, 1935-55," *Employment Security Review*, August 1955, XXII, p. 37.

totals all relate to the maximum basic benefits; were dependents' allowances included, the range would be even greater. With respect to dependents' allowances, it may be noted that there has been no change since 1949 in the total number of states granting such allowances; this number remains at eleven, although one state has discontinued such allowances recently and another has added them.<sup>19</sup>

Action was taken by the Congress to provide a source of loans to State unemployment insurance funds which are seriously depleted or exhausted, thereby providing on a permanent basis a type of aid somewhat similar to that which had been available under temporary legislation between 1944 and 1952.<sup>20</sup> Under this legislation there is an automatic appropriation to the Federal Unemployment Trust Fund each year of the excess of Federal unemployment tax collections above employment security administrative expenditures. Such excess collections will be used to create and maintain a \$200 million fund in a Federal unemployment account from which state systems whose reserves are low may obtain non-interest-bearing loans. Should such loans not be repaid after four years, the 90 per cent offset against the Federal tax of 3 per cent will be reduced by 5 per cent of the tax each year during which the loan remains unpaid. Federal tax collections beyond those necessary to maintain the \$200 million unemployment account will be returned to the states for their use in financing benefits or, under some conditions, for administrative expenditures on employment security. Certainly some type of permanent protection for state funds was needed. For the first time in our history benefit payments have been denied eligible claimants under a state program because of lack of funds. This happened in Alaska in March and in April of 1955; certain legal difficulties blocking Alaska's use of this loan fund were cleared by Congressional action during the summer and funds have now become available under the Federal legislation.<sup>21</sup>

One other recommendation made in 1954 by the President in connection with unemployment insurance was the reduction of the period required under which employers can qualify for the additional credit allowance which makes possible the use of experience rating arrangements. Congressional approval followed this recommendation,<sup>22</sup> and the required period is now one year instead of three; as of August, 1955, twenty-two states had amended their laws to make the reduced rates available at the end of this shortened period, and undoubtedly the other states will amend their laws accordingly.<sup>23</sup>

Another aspect of unemployment insurance activities merits at least a brief comment, although it was not involved in the President's recommendations

<sup>19</sup> Sorenson, *op. cit.*, p. 3.

<sup>20</sup> Public Law 567, 83d Congress, 2d Session, approved August 5, 1954. *United States Statutes at Large*, Volume 68, Part 1, pp. 668-674. A comment on this legislation may be found in George F. Rohrlich, "Employment Security Administrative Financing Act of 1954," *The Labor Market and Employment Security*, July 1955, pp. 1-4, 13.

<sup>21</sup> Rohrlich, *op. cit.*, p. 4, and "Unemployment Insurance Financing: The Alaska Story," *The Labor Market and Employment Security*, May 1955, pp. 22-24, 38.

<sup>22</sup> Public Law 767, 83d Congress, 2d Session, approved September 1, 1954.

<sup>23</sup> "VI. Trends in Benefit Financing, 1935-55," *Employment Security Review*, August 1955, XXII, p. 30.

earlier alluded to. There has been, through the years, a definite trend among the states to introduce more stringent eligibility and disqualification provisions for the claimants of unemployment insurance.<sup>24</sup> In the earlier laws violations of the disqualification provisions, for example, resulted only in postponement of benefit rights, but as time has gone by many of the states have moved toward cancellation of benefit rights or the disqualification of claimants for the duration of their unemployment in many instances involving voluntary quits, discharge for misconduct, or refusal of suitable work. This is a phase of unemployment insurance in which the states are almost completely free to set whatever standards they wish, the only Federal restrictions applying to conditions under which suitable work may be refused. The result has been the creation of widely varying penalties, though on balance the trend has been in the direction of increasing severity. Undoubtedly there is a substantial linkage between such a trend and the fact that, under most experience rating systems, employers can and do see a very direct connection between lower tax rates and the number of claimants who can be prevented from drawing benefits. Concern has often been expressed about the impact of restrictive eligibility and disqualification provisions in the state laws. A recent example can be found in an April, 1955, statement by the U. S. Secretary of Labor, in which he pointed out that such provisions should be applied

... without rigid requirements and harsh penalties. (Specifically, not to require an active search for work irrespective of circumstances; not to limit good cause for voluntary quitting to good cause connected with the employer or the employment; and not to penalize disqualified claimants by disqualification for the duration of the unemployment or by canceling their benefit rights but, with respect to voluntary quitting, discharge for misconduct, and refusal of suitable work, to postpone benefits for a specified period immediately following the disqualifying act, during which it may be considered that the claimants' unemployment is due to their own actions, without good cause.)<sup>25</sup>

While generalizations about changes in this most complex area of unemployment insurance are very hazardous, it certainly seems safe to say that there is in recent legislation no discernible trend toward following practices such as those recommended by the Secretary of Labor; recent changes in the laws suggest rather that the movement is still in the opposite direction.<sup>26</sup>

This very brief survey of recent developments in unemployment insurance suggests that extensions and improvements of the state systems which are deemed desirable from the viewpoint of national policy can be brought about only in a slow, uneven, and indeed rather haphazard fashion under the present arrangements. The states have not, of course, been entirely remiss in making improvements, but in critical areas (such as that of benefit amounts) even the most generous changes have hardly done more than keep pace with rising levels of wages.

<sup>24</sup> "VIII. Trends in Disqualifications, 1935-55," *Employment Security Review*, August 1955, XXII, pp. 41-46.

<sup>25</sup> *Employment Security Review*, August 1955, XXII, p. 67.

<sup>26</sup> See, for example, the factual summary of such changes during the 1955 sessions of the state legislatures as set forth in Sorenson, *op. cit.*, pp. 50-52.

The features in which the states have shown the most fervor about experimentation and changes have been those involving new methods of permitting reduced rates of taxes and of enlarging the applicability of circumstances which deny benefits to applicants. The reluctance with which many states have increased benefit amounts and durations, together with the vigor with which they have made these benefits more difficult to obtain, could be more readily understood if these actions had been prompted by shortages of available funds, but such is clearly not the case. States which have had no financial difficulties whatever (and this group comprises the vast majority) and which show little likelihood of encountering such difficulties in the future have been just as vigorous (or even more so) in their restrictive practices than those which have had financial problems of more consequence.<sup>27</sup>

## II

The events of the past two years seem, therefore, to provide still more evidence that the present system of national-state relationships in unemployment insurance affords a rather unsatisfactory means of bringing about improvement in these programs. They suggest that modifications of this system should be explored in order to make possible the correction of such generally recognized inadequacies as those pointed out by the President in the *Economic Report*. An opportunity for such exploration was recently given to the Commission on Intergovernmental Relations, and this agency did include employment security among the aspects of our federal system to which it gave a reappraisal. That part of the Commission's report dealing with employment security is liberally sprinkled with references to the need for protecting and conserving the national interest in this field, this interest being spoken of as "clear" and "deep-rooted."<sup>28</sup> The Commission's conclusion is that "the role of the National Government has been unduly extended in the area of administrative control, whereas its role has been too restricted with respect to benefit standards, benefit financing, and other substantive areas of the program."<sup>29</sup> As far as administration is concerned, the Commission's recommendations point out specific practices which in its opinion should be modified in granting somewhat greater leeway to the states. On the issues of benefit standards, benefit financing, and other substantive areas, however, the Commission's proposal seems singularly ill-designed to bring about the changes which it specifically recognizes as being needed. After pointing out that benefits should be "reasonably related to wage levels, for adequate periods, and governed by reasonable eligibility and disqualification provisions," and after indicating that these conditions have not been met under the present programs, its only recommendation is that the President and Secretary of Labor advise

<sup>27</sup> For more detailed comment on some of the financial aspects of the state systems of unemployment insurance, see Carey C. Thompson, "Financing Unemployment Insurance in the United States," *Political Science Quarterly*, March 1954, LXIX, pp. 92-118.

<sup>28</sup> *The Commission on Intergovernmental Relations, A Report to the President for Transmittal to the Congress* (Washington, June 1955), pp. 198-211, and more especially pp. 200 and 206.

<sup>29</sup> *Ibid.*, p. 200.

the states from time to time on minimum standards which they think should be included in state laws dealing with these substantive aspects of the programs.<sup>30</sup> Such hortatory efforts have always been available and have often been used; the Commission gives no indication why exhortation can be expected to serve any more effectively in the future than it has in the past as a means of achieving the national interest, whatever it may be. The Commission does recommend that coverage be extended to employers of one or more through national legislation, and it also suggests that Congress consider authorizing the application of sanctions so as to prevent insolvency in state unemployment funds.<sup>31</sup> In the main, therefore, the Commission recognizes in our systems of unemployment insurance the same weaknesses that have so often been pointed out in the past, but in effect only recommends a continuation of the same circumstances under which these weaknesses have come about.

As an aid in its study of the employment security program, the Commission on Intergovernmental Relations created a study committee to examine and report on unemployment insurance and the employment service. The report of this committee has been separately published.<sup>32</sup> Major consideration was given by the committee to three issues—administrative financing, benefit standards, and benefit financing.<sup>33</sup> On each of these issues the committee was sharply and closely divided. The principal change recommended by the majority (six of eleven members) is in the area of administrative financing—a proposal to employ a 99 per cent offset plan instead of the present 90 per cent of the Federal tax, with the states to use the added amount retained for paying their respective administrative expenditures, but subject to Federal supervision under a plan which would be cumbersome at best, and likely to generate great friction between state and Federal authorities at worst.<sup>34</sup> Extension of coverage by the Federal Unemployment Tax Act to employers of one-or-more is also endorsed by a six-to-five vote, this being the only proposal receiving majority approval which would have the effect of extending nation-wide standards in unemployment insurance.<sup>35</sup> On all other questions the committee majority is in favor of a continuation of the existing framework and the present distribution of responsibilities as between national and state governments. There is a rather clear implication in the majority's

<sup>30</sup> *Ibid.*, p. 207.

<sup>31</sup> *Ibid.*, pp. 209-210.

<sup>32</sup> *A Study Committee Report on Unemployment Compensation and Employment Service* (Washington, June 1955).

<sup>33</sup> *Ibid.*, p. 5.

<sup>34</sup> *Ibid.*, pp. 17-29. Adverse comments on this proposal by the committee majority, together with alternative proposals offered by various members of the committee minority, can be found in *ibid.*, pp. 37-75.

<sup>35</sup> On this recommendation the five employer representatives on the committee constituted the minority. Although the report does not always make clear the exact composition of the majority and the minority, it seems clear that in the more important divisions, with the exception of the proposal on coverage extension, the majority was composed of the five employer representatives and one other committee member or of the employer members alone in certain cases where abstentions from voting permitted a majority of less than six members to prevail. See the various footnotes, *ibid.*, pp. 7-10.

statements that its members do not agree with the views of the President, the Secretary of Labor, and others that the present programs reveal serious weaknesses.<sup>26</sup> Their primary concern seems to be that of preserving or enlarging the role of the states in unemployment insurance rather than in raising the level of the substantive content of the existing programs. The report of this committee is an excellent illustration of the very striking and vigorous differences of opinion which still exist on many phases of unemployment insurance among those most familiar with and interested in this part of our social security program.

### III

No thorough analysis of the causes for the widely recognized shortcomings in our state unemployment insurance systems can here be given,<sup>27</sup> but a few suggestions may appropriately be made. Much of the difficulty goes back to the fact that unemployment insurance was brought into use quite rapidly in this country; its roots in our economy prior to 1935 were few and feeble. E. E. Witte's statement in 1945 that "there never has been agreement as to the purpose of unemployment compensation or its basic principles" appears to be just about as true to-day in this country as it was ten years ago.<sup>28</sup> Given the full-employment conditions which have prevailed through most of the period since unemployment insurance began to function in the United States, we can readily understand that public interest in this method of meeting the risks of unemployment would decline rather than increase.

It also seems rather clear that our financing methods have helped to perpetuate misunderstanding about the nature of unemployment insurance. Taxes have been levied almost entirely upon the employer, and, while they are undoubtedly shifted in great part, this arrangement lends a certain plausibility to the contention that the employer bears all the burdens and the employees get all the benefits. In most of our experience rating programs individual employer tax rates are closely linked to individual benefit payments; under these circumstances employers can readily enough take the attitude that they are somehow with their own money paying directly the awards made in this form of what is supposed to be social insurance. From this attitude there is easy progression to the belief that unemployment insurance is a form of relief, a happy hunting ground for

<sup>26</sup> See *ibid.*, pp. 30-32.

<sup>27</sup> No comments in this paper are intended to imply that the states have entirely neglected their opportunities and responsibilities to experiment with and improve their unemployment insurance programs. Certain recent examples of willingness to revise these programs may be cited: within the past three years five states have raised the annual base of taxable wages from \$3,000 to \$3,600; in 1955 one state has changed its maximum benefit rate from a specific dollar amount to an amount set by one-half the average weekly wage of covered workers; and in one jurisdiction experience rating has been discarded as a feature of the state law and a tax on employees of 0.5 per cent of taxable wages has been introduced. Nearly two decades of experience suggest, however, that any innovations, no matter how satisfactory they may prove to be, will be adopted very slowly and unevenly.

<sup>28</sup> Edwin E. Witte, "Development of Unemployment Compensation," *The Yale Law Journal*, December 1945, LV, p. 21.

frauds and chiselers. Such a belief is certainly not conducive to improvement of what we have already done in unemployment insurance.

While these circumstances and attitudes are by no means universally the case, they undoubtedly have enough force to continue to limit the extension and improvement of unemployment insurance in at least some jurisdictions during the foreseeable future. If the present national-state distribution of standards-creation continues, we can reasonably expect that a good many states will lag in the process of adjusting the substantive features of unemployment insurance to changing conditions.<sup>39</sup> It appears that we have had enough experience with the programs under the present arrangements to understand that minimum standards necessary to protect a national interest in unemployment insurance are not likely to be met by mere example and exhortation. It may be that these minimum standards, whatever they are, do not need to be stipulated as such in national law; the Advisory Council on Social Security to the Senate Committee on Finance, for example, in its 1949 report was of the opinion that a change in the methods of financing would be sufficient to encourage the adoption of adequate benefit provisions.<sup>40</sup> In any event, whatever the method that might be chosen, it seems clear that a national interest, however defined, can hardly be obtained in unemployment insurance through mere lip service to the fact of its existence.

<sup>39</sup> This lag in the processes of adjustment in unemployment insurance benefit amounts and durations has very likely given impetus to the movement for the so-called guaranteed annual wage.

<sup>40</sup> U. S. Congress, Senate, *Recommendations for Social Security Legislation*, Reports of the Advisory Council on Social Security to the Senate Committee on Finance, U. S. Senate, 80th Congress, 2d Session, Document No. 208 (Washington: Government Printing Office, 1949), pp. 163-171.

## THE "NEW COURSE" IN THE SOVIET ECONOMY

EDWARD TABORSKY

*University of Texas*

"The Soviet people have the right to demand of us . . . durable, well-finished and high quality articles," said Malenkov in his speech before the Supreme Soviet of the USSR in August of 1953. "It is our task to make a sharp improvement in the production of consumer goods and to ensure a faster development of light and food industry."<sup>1</sup>

Malenkov's speech thus gave an official sanction to a series of unusual developments, both in the Soviet Union and on the satellite scene. So divergent did those developments seem to be from the happenings of the last years of Stalin's era that there was a strong temptation, among outside observers as well as among the Communists themselves, to coin new terms, and the post-Stalin developments were referred to as the "New Course," "New Line," "New Look," and even as "New Economic Policy." No lesser person than the Chairman of the Presidium of the Supreme Soviet of the USSR, K. Voroshilov, designated the envisaged changes as "a new stage in the development of Soviet economy."<sup>2</sup>

Yet less than one-and-one-half years later the "New Course" came under a sharp attack. Under the leadership of Nikita S. Khrushchëv a campaign was launched, in December of 1954 and January of 1955, against the "vulgarizers of Marxism" who had abandoned the "only correct line of all-round development of heavy industry."<sup>3</sup> Malenkov's subsequent demotion and admission of guilt on February 9, 1955, though primarily a result of the clash of personal rivalries, was adroitly used to dramatize the reversion to the Marxian-Leninist orthodoxy. The industrial ingredient of the "New Course" was cut out. Only its agricultural facet was allowed to extend into the Khrushchëv-Bulganin era, although even there the screw began again to be tightened after the relative ease of the first post-Stalinist year.

Now that that peculiar episode of the "New Course" has been virtually brought to its close, the time has come to strike and assess its balance. That is the purpose of this article.

### THE SITUATION ON THE EVE OF THE POST-STALIN ERA

Before we embark upon the discussion of the post-Stalin developments, a few words must be said about the situation prevailing in the Soviet Union at the close of Stalin's rule because the "New Course" and its purpose can be properly gauged and understood only if seen against that background.

<sup>1</sup> *Pravda*, August 9, 1953.

<sup>2</sup> In his speech on the Anniversary of the October Revolution (*Izvestia*, November 7, 1953).

<sup>3</sup> See D. Shepilov's article on the "General Line of the Party and the Vulgarizers of Marxism," *Pravda*, January 24, 1955, and Khrushchëv's speeches to the Builders' Conference (*Izvestia*, December 28, 1954); to Young Settlers (*Izvestia*, January 8, 1955); and to the Party's Central Committee (*Pravda*, February 3, 1955).

Despite spectacular claims of economic successes and despite the several price reductions enacted after the war, the pitiful over-all living conditions of the Soviet man-in-the-street did not improve in comparison to prewar standards. As the Kremlin itself admitted after Stalin's death,<sup>4</sup> agricultural production had been in constant stagnation and had reached the point of a major crisis by 1952. The production of consumer goods had also been wholly inadequate. The average Soviet consumer could buy 10% less goods than in 1928. The living space at the disposal of an average city dweller shrank from 7.1 square yards per person in 1928 to around 5 square yards in 1952. As a by-product of World War II, millions of Soviet citizens were able to see for themselves, for the first time in the history of the Soviet state, how miserable their extolled living standards were in comparison to those of the "capitalist" countries which they had entered while pursuing the German armies.<sup>5</sup> Upon their return home the word of this startling discovery spread to tens of millions of their relatives and other close associates. These and other well-known factors, which made life unpleasant for the great majority of people under a totalitarian system, had contributed to a growing disaffection toward the Stalinist régime. This discontent was found not only among the grey masses of the Soviet workers and peasants but, to a by-no-means negligible extent, even within the ranks of the communist élite as represented by higher Party and Government functionaries, the Armed Forces Officers' Corps and the managerial personnel.

The general attitude toward the Stalinist system and its lieutenants is well illustrated by the following story which circulated widely behind the Iron Curtain:

A communist city councilman, who was anti-Stalinist at heart, was asked by another comrade, who also disliked Stalin, why he had spoken in favor of the City Council's resolution to build a huge statue of Stalin on a hill overlooking the city. The councilman answered that he had three reasons: First, he thought that the huge statue would protect the City somewhat from the cold northern winds in winter; second, he expected from it a good deal of beneficial shade throughout the hot summers; and third, he anticipated that throughout the year birds would establish their headquarters on the statue and thus be in a position to express on behalf of the people their opinion of the Big Boss.

No matter how much he was hated, as long as he was alive and mentally able to guide, Stalin could handle the situation. Studies of his psyche, his ways of operation and his relations to the other men of the Kremlin, reveal that in the latter years of his rule the Soviet leader became the absolute dictator while the other top Soviet communists, including even such aces as Molotov, Malenkov, and Beria, served only as docile executors of their Boss's will and subservient

<sup>4</sup> Malenkov's speech before the Supreme Soviet on August 8, 1953 (*Pravda*, August 9, 1953); the resolution of the Central Committee of the CPSU of September 7, 1953, on Khrushchev's report (*Pravda*, September 13, 1953). English text in the *Current Digest of Soviet Press* (hereinafter referred to as *Digest*), Vol. 5, No. 31, pp. 11 ff.

<sup>5</sup> The present writer had the opportunity to observe personally the destructive influence which such a realization had on the Soviet soldiers in Czechoslovakia in 1945. Cf. also Merle Fainsod, "Controls and Tensions in the Soviet System," *American Political Science Review*, Vol. XLIV, No. 2, pp. 266 ff.

advisers who had to be on their guard lest they might offend him by tendering suggestions failing to meet with his approval. Thus Stalin could easily manage, by the superior weapon of coercion which he had at his unlimited disposal, both his top henchmen and the shapeless masses subjected to his rule.

His death created a terrific vacuum in the power-political arrangements behind the Iron Curtain, a vacuum which no single man or group of men could hope quickly to eliminate, and left behind an unwieldy cluster of difficult problems. Such problems could be ignored or temporized with, without too much risk, while Stalin was in firm command, but not so after he was gone.

It is against this general background that one must consider the series of developments which came to be labeled as the "New Course."

#### THE PROMISES

As announced in speeches of leading communists in the summer and fall of 1953, and embodied into an avalanche of Party resolutions and government decrees,<sup>6</sup> the "New Course" promised a number of economic adjustments and reorientations. Disregarding minor points it comprised the following major features:

##### *Industrial Production*

A reduction in the rate of heavy production and capital investment and a modest increase in the rate of production in the field of light and food industries;

More emphasis on the manufacturing of equipment and tools for the use of light industry and agriculture, even switching some armaments factories to such manufacture.

##### *Agricultural Production*

Raising of agricultural output, in particular livestock;

An increase in the number of machine tractor stations, better staffing and improvement of their efficiency;

A series of concessions in favor of the collective farms and their members, including such things as reduction of taxes, lowering quotas of compulsory deliveries, raising the government procurement prices;

A more favorable attitude toward the personal holdings of the *kolkhozniki*, such as increasing the size of their household plots and even encouraging more individual livestock ownership;

An emphatic rebuttal of earlier attempts to merge the collective farms into larger *agrogorods*.

##### *Trade and Living Conditions*

Reductions in retail prices on, and releases of larger supplies of, various consumer goods and foodstuffs;

Avowed endeavor to pay more attention to the desires of the population with regard to consumer goods by improving the quality of both goods and services;

<sup>6</sup> *Digest*, Vol. V, No. 37, pp. 1 ff.; No. 38, pp. 3 ff.; No. 39, pp. 3 ff.; No. 40, pp. 3 ff.; No. 42, pp. 9 ff.

Granting of wage increases;  
Expressed desire of more trade with "capitalist countries";  
Promises to provide more and better housing.

Some of these measures and promises were by no means new. Such things as occasional price reductions and salary increases, and a few other concessions here and there, have been part of the communist stick-and-carrot tactics most of the time. However, there were a number of important items in the "New Course" which ran directly counter to the trend of developments of the Stalinist era, counter to Stalin's theses as embodied in his last contribution to the communist doctrine "Economic Problems of Socialism in the USSR," and amounted, indeed, to an abrupt about-face in certain economic practices of pre-1953 days. Only some fifteen months previously, if any communist other than Stalin had dared ask for a slowdown of heavy production and a diversion of raw materials therefrom to the light industries, or talked of "disproportions" between capital goods and consumer goods production, and even implied that the government had neglected the living standards of the workers, such a person would have been promptly arrested and disposed of for high treason and economic sabotage. Indeed, most of the earlier accusations thrown at Slánský, Clementis, Rajk, Kostov and so many other prominent communists were strikingly similar to what was the announced core of the "New Course."<sup>7</sup> What those men had been hanged for as late as 1952 became the slogan of the day in 1953.

#### THE WORDS AND THE DEEDS

The communist leaders made it amply clear from the very outset that the "New Course" did not imply any major de-emphasis of heavy industry. Malenkov himself continued to refer to the latter as "the foundation of foundations of socialist economy." Nonetheless, with all that 1953 bombastic stressing of more consumer goods and the eagerly professed concern for the everyday needs of the citizens, the impression was created that an immediate and substantial betterment was just around the corner. However, the final economic balance sheet of the "New Course" years, as borne out by Soviet figures themselves, poured a cold shower on such illusions.

##### I. INDUSTRY

###### *The Actual Output*

The Report on the fulfilment of the 1953 Economic Plan, issued by CSA, the Central Statistical Administration of the USSR,<sup>8</sup> claimed the overfulfilment of planned goals in consumer goods and local industries (turning out mostly consumer goods) by 4% and in the output of Producer's Cooperatives by 3%. As shown in Tables II and IV appended to this article, production increases of

<sup>7</sup> Some of the major accusations leveled against Slánský, Clementis and their accomplices referred to economic sabotage which they had allegedly committed by giving preference to light industries, such as textiles and shoe production, by emphasizing the automobile industry, by insisting on more trade with "capitalist" countries, and by opposing a resolute struggle against the *kulaks*.

<sup>8</sup> *Izvestia* and *Pravda*, January 31, 1954. English text in the *Digest*, Vol. VI, No. 5, pp. 16 ff.

varying degrees over 1952 were announced in the main lines of textiles, in a wide range of durable goods as well as in a substantial number of products of the food processing industries. However, only a very slight increase made itself apparent in the overall pace of production. Comparing the increase in the rate of production of consumer goods in 1953 with that of 1952 the CSA came out with a bare  $1\frac{1}{2}\%$  acceleration, i.e., 12% in 1953 as against  $10\frac{1}{2}\%$  in 1952. Moreover, the most spectacular increases were registered invariably in such merchandise as must be considered as luxury items in the Soviet Union, and which only topmost Soviet élite can afford to buy. Thus the 1953 turn-out of television sets zoomed to a 125% increase above that of 1952, of vacuum cleaners to 100%, of refrigerators to 59%. In such items where the total output was low, amounting only to a few tens of thousands of pieces in each category in 1952, spectacular percentage increases can easily be registered, though their practical meaning is insignificant.<sup>9</sup>

On the other hand, the output of badly needed cotton and woollen fabrics rose only by 5% and 9% respectively, and actually stayed below the planned targets. So did the manufacture of ready-made clothing, while that of footwear was less in 1953 than in 1952. The output of butter, cheese and canned goods also lagged behind the planned quotas. Nor did there seem to be any improvement in quality worth mentioning. "Many enterprises . . . continued to turn out unsatisfactory products," lamented the CSA's Report, "low quality footwear . . . poorly finished and unattractive textiles and clothing, and knitwear with serious defects."

As 1953 was already half way through before the "New Course" could be launched, it would have been unjustified to expect any really meaningful rise in the turn-out of consumer goods in 1953, beyond the targets set by the Stalinist Fifth Five-Year Plan. With the year of 1954 it was different. By then the new bosses of the Soviet Union had had ample time to take the necessary steps so as to begin implementing in earnest the lofty "New Course" promises. However, the balance sheet of the Soviet industrial attainments in 1954 failed to reveal any substantial shift to the production of merchandise for mass consumption. As in the preceding year, the CSA's Report on the fulfillment of the Plan in 1954<sup>10</sup> claimed once again high percentage increases over 1953 in such consumer goods as television sets (100%), radios (76%), refrigerators (92%), vacuum cleaners (90%), and washing machines (1100!%).<sup>9</sup> Contrariwise, the announced results in articles which the Soviet man-in-the-street really needs were much more modest, falling well below the 13% rise claimed for the overall gross industrial production. The manufacture of cotton fabrics was raised by 6%, leather footwear by 7%, rubber footwear by 3%, hosiery by 10%. The output of furniture, of which the Soviet public is in such dire want, did increase by 27%

<sup>9</sup> See Table II in the appendix for absolute figures. In a few instances the absolute figures listed in Tables I-III and the percentage increases claimed by the CSA's reports as listed in Table IV, do not quite match. That is probably due to some unannounced changes in planned targets.

<sup>10</sup> *Izvestia* and *Pravda*, January 21, 1955. English text in the *Digest*, Vol. VII, No. 2, pp. 9 ff.

over 1953, but the planned quotas were not met. Strangely enough, no data were mentioned in the CSA's Report about the output of smaller kitchen appliances and household goods, although the Economic Plan for 1954 had set definite goals in absolute figures for the production of various metal utensils, bedsteads, and kerosene stoves.<sup>11</sup> It may well be that such items are covered by the rather cryptic statement of the Report censuring a number of unspecified ministries for overfulfilling their production goals in merchandise "not in short supply" while not meeting their goals for some more important products.

In a number of basic food items, such as meat, sausages, butter, vegetable oils, margarine and cheese, the rate of increase actually slackened in comparison with 1953, although absolute increases were registered. Also, the 1954 output of butter, cheese, vegetable oils, meat, confectionery and beer remained behind the planned targets. That is probably true also of milk, sugar, margarine, eggs and soap, since no 1954 figures were announced for those items. Nor did the CSA's Report for 1954 reveal the overall rate of increase in the production of consumer goods, although such data were given both for 1952 and 1953. Such omissions seldom happen in the Soviet Union by mere forgetfulness on the part of the authors of such reports. As for quality of the merchandise, it was the same old story again in 1954 as in 1953. "Certain enterprises, particularly in local and cooperative industry, still turned out some products of unsatisfactory quality," complained the 1954 Report. "There were still many shortcomings in serving the everyday needs of the population."

With the advent of 1955 the consumer's hopes for more abundant supplies suffered further setback. Following Khrushchëv's drive against the "right-wing deviations" who had dared stress light industry, heavy production resumed its former status of absolute and untouchable dominance. As revealed by the CSA's Report on the fulfillment of the Economic Plan in 1955,<sup>12</sup> the pace of the production of capital goods increased in comparison to 1954, while that of consumer goods mostly decreased. Also, wherever the planned 1955 targets were exceeded, this occurred mostly in capital production such as coal, oil, electricity, crude and rolled steel, trucks, metallurgy, paper and chemical industries.

On the other hand, the 1955 goals, as revised upwards at the inception of the "New Course," were not met in the most important fields of consumer goods. That happened with textiles, shoes, meat, fish, sugar, vegetable oils as well as with many less urgently needed articles such as bicycles, watches, sewing and washing machines, etc.<sup>13</sup> In the case of cotton and woollen fabrics, fish, sugar

<sup>11</sup> They included 47,700 tons of black cast-iron utensils, 143,900 tons of galvanized iron utensils, 12,300 tons of enamel cast-iron utensils, 61,200 tons of enamel-iron utensils, 90,000 tons of aluminum utensils, 675,000 *samovars*, 11,700,000 stainless steel spoons, 13,500 metal bedsteads and 2,966,000 kerosene stoves. Cf. *Economic Survey of Europe in 1954*, p. 263.

<sup>12</sup> *Izvestia*, January 31, 1956. For details see Table IV in the appendix.

<sup>13</sup> See Table II. The CSA's report claims an unspecified output "above the annual plan" for a number of the said items, but that undoubtedly refers to the lower original targets set in Stalinist days, or to targets as they were subsequently cut down after the victory of Khrushchëv's "heavy-Industry" camp.

and vegetable oils even the lower original 1955 targets set in Stalinist days failed to be met. Furthermore, as in the previous two years, the biggest percentage increases were claimed in dispensable durable merchandise such as television sets (94%), refrigerators and vacuum cleaners (90%), cameras (33%), sewing machines (26%), and radios (22%). Nevertheless, these 1955 increments were in most instances far lower than the steep increases of 1954, and the output of washing machines actually fell far below the 1954 production.

The renewed 1955 emphasis on capital production is continued in 1956 as well. As bared by the Soviet Minister of Finance, A. G. Zverev, industrial production is scheduled to rise by 10.5%, the output of the means of production increasing by 11% and that of consumer goods by 9.6%.<sup>14</sup> Although the total allocations to the capital goods production in 1956, fixed at 158.7 billion rubles, are almost 5 billions less than the 163.6 billions earmarked for the same purpose in 1955, they represent nevertheless, according to Zverev, 15% more in terms of actual purchasing power in 1956. The reason is that the 1956 budget is figured in lower prices which took effect in July of 1955, while the 1955 budget operated with higher 1950 base prices. The same applies, undoubtedly, to the expenditures on the consumer goods output which are scheduled to exceed 26 billion rubles in 1956, trailing thus only a few hundred million rubles behind those for 1955.

### *Investments*

Turning from actual production to industrial investments in the years 1953 to 1955, we find a similar pattern of first favoring slightly more light industry in 1954, but withdrawing most of the extra "New Course" favor again in 1955. As in previous years, heavy production continued even in 1954 to claim by far the biggest slice of the investment cake. Its investments were scheduled to rise from 81 billions in 1953 to 90.5 billions in 1954. But the light and food-processing industries were to register a much steeper percentage rise from 7.6 billions in 1953 to 14 billions in 1954. Nevertheless, in spite of this improvement, the relative proportion of investments as between the light and heavy industry in 1954 was much less favorable for the former than the ratio which had existed as early as 1933-1937, during the Second Five-Year Plan, when 8.8 billion rubles were invested in light industry as against 49.8 in heavy industry.<sup>15</sup>

In 1955 capital investments for heavy production were further increased to 93.5 billion rubles, but no figures were published on the distribution of investment funds as between the light and heavy industries. However, since the total outlays for light industry and trade, i.e., current expenditures plus investments, decreased from 36.5 billion rubles in 1954 to 27.9 in 1955 while those for heavy industry increased from 133.2 to 163.6 billions, it is more than probable that relatively less money must have been invested in light industry in 1955 than in 1954.<sup>16</sup> The trend was further confirmed by the announcement of planned

<sup>14</sup> Zverev's report on the budget for 1956 (*Izvestia*, December 27, 1956).

<sup>15</sup> A. Nove, "Soviet Budgets After Stalin," *Review of Economics and Statistics*, Vol. XXXVI, No. 4, p. 419.

<sup>16</sup> Figures taken from Soviet State Budget Laws for 1954 and 1955.

investments for 1956. While a record-breaking amount of 96.6 billion rubles are earmarked for capital investments for heavy industry, those for light and food industries have been cut drastically to 7.8 billions, i.e., almost back to the low level of 1953.<sup>17</sup> The share of heavy production in total capital investments for 1956 is thus to rise to 60% as compared to a 53.3% share in 1954, while the share of light industry is to be 4.8% as against 8.3% in 1954.<sup>18</sup>

### *Labor Productivity and Production Costs*

The slight relaxation of controls accompanying the initial stages of the "New Course" had a rather adverse effect on two matters of major concern for the bosses of Soviet economy: labor productivity and production costs.

Feeling that the pressure was somewhat eased and the whip of "socialist labor discipline" used more sparingly, the Soviet worker relaxed in his work. The rate of increase in the output per man sank below the planned targets to a low of 6% per annum in 1953 and to 7% in 1954. By 1954 labor productivity was lagging as much as 17% behind the Plan, having risen only 33% over 1950 instead of the planned 50%.<sup>19</sup> In 1954 over 40% of the enterprises under the All-Union and Union-Republican ministries failed to reach the indices set for labor productivity, complained the Soviet Premier, N. Bulganin, in July of 1955.<sup>20</sup> Nor could the slight rise in industrial labor productivity to 8% in 1955 make up for the accumulated deficiency and the Fifth Five-Year Plan ended thus with its labor productivity target largely underfulfilled.<sup>21</sup>

Taking note of this failure, the 1956 plan calls for an increase of 7.7% which is substantially lower than the 10% yearly average decreed for 1951-1955. However, the respite thus granted to the Soviet industrial workers will not be of any prolonged duration. The Sixth Five-Year Plan sets again an ambitious goal of a 50% rise in output per man by 1960. As the workers are promised at the same time to have their work hours gradually reduced from 48 to 40 per week,<sup>22</sup> it is obvious that their work norms must be sharply stepped up.

With labor productivity trailing so far behind the Plan and with wages having

<sup>17</sup> Zverev's report on the 1956 budget (*Izvestia*, December 27, 1955). However, the real purchasing power per ruble is claimed to be 15% more than in previous years.

<sup>18</sup> Leon B. Herman, "Soviet Economic Policy Since Stalin," *Problems of Communism*, Vol. V, No. 1, pp. 13-14.

<sup>19</sup> Revealed in K. I. Klimenko's article in *Vestnik Akademii nauk SSSR*, No. 9, September 1955. English text in the *Digest*, Vol. VII, No. 44, p. 3.

<sup>20</sup> In his report on industrial development to the Party's Central Committee in July of 1955 (*Izvestia*, July 17, 1955).

<sup>21</sup> In his speech on the Anniversary of the October Revolution, the Soviet First Deputy Premier, L. Kaganovich, claimed that the industrial productivity was 44% above that of 1950 (*Izvestia*, November 7, 1955). In view of the figures revealed earlier by Klimenko (cf. note 19 supra) that may have been an overstatement. The Party Directives on the Sixth Five-Year Plan state that the goals for labor productivity in industry set in the Fifth Five-Year Plan "were not quite met," without saying by what percentage (*Pravda* and *Izvestia*, January 15, 1956).

<sup>22</sup> Krushchëv's speech before the 20th Party Congress (*Pravda*, February 15, 1956).

admittedly risen more than had been planned,<sup>23</sup> the industrial production costs could not have remained unaffected. Although percentage reductions of production costs were claimed from year to year, persistent complaints by Soviet spokesmen clearly indicate that they had been far from satisfactory. "Plan for lowering the unit cost in industrial production will be overfulfilled in 1955 to a small extent," said Zverev in his report on the 1956 budget, "while for a number of recent years this assignment was not fully met." As a result the target of the Fifth Five-Year Plan of a 25% reduction in industrial production costs was underfulfilled by 2%.<sup>24</sup>

## II. AGRICULTURE

As revealed with unusual frankness by communist leaders themselves in the wake of Stalin's death, it was the sorry state of Soviet agriculture which contributed most to their economic head-aches. Realizing at least the imperative necessity of doing something about this Achilles' heel of Soviet economy, they adopted and set into motion, in the summer and fall of 1953, a series of remedial measures which became in fact the main ingredient of the "New Course."

However, agriculture proved to be an even tougher nut to crack than light industry. By the very nature of things agriculture is apt to respond to governmental *fiats* less promptly than industry. Animals and plants can be coerced to fulfill the communist-decreed norms with far less success than men.

While prolific with claims of production increases and over-fulfillments of planned targets in industry, the CSA's Report for 1953 had next to nothing to say about the results in agriculture. No absolute figures or percentage increases were claimed for 1953 harvest, except for sugar beet where a rise of almost 5 million tons was subsequently announced. The grain crop, the basis of Soviet food supply, was referred to laconically as being "close to 1952" and the potato crop the same as in 1952. Animal production, the main "New Course" concern, showed only very slight improvement in 1953 over the miserable showing of Stalinist years, and that only in pigs and sheep, while a painful decrease of almost 2 million heads was suffered in cattle, the key sector of animal husbandry. (See absolute figures in table III.)

Although some improvement took place in 1954, the results continued to lag behind expectations. An unspecified larger harvest of cotton, flax, potatoes, vegetables, and "other farm products" was claimed and 271 million more poods of grain were said to have been delivered to the State by December of 1954 than by the same time in 1953. Since neither definite percentage increases nor absolute figures were revealed for 1954, the claimed crop increases must have been anything but spectacular.

The situation in animal production turned out to be somewhat better. Between October of 1953 and 1954 a 3% increase was claimed for cattle, 9% for pigs and

<sup>23</sup> According to Bulganin's report to the Party's Central Committee in July of 1955, the industrial labor productivity increased by 33% in the previous four years, but the real wages of workers rose by 37% at the same time (*Izvestia*, July 17, 1955).

<sup>24</sup> Khrushchëv's speech at the 20th Party Congress (*Pravda*, February 15, 1956).

2½ % for sheep. Nevertheless, the 64.9 million heads of cattle were still 1 million short of the none too impressive 1954 target.<sup>25</sup>

The developments in 1955 followed much the same pattern. As in 1954, the CSA's Report for 1955 shied away from any absolute figures on vegetable production. Big percentage gains were claimed for flax (74 % above 1954), sugar beet (54 %) and sunflower seeds (almost 100 %). On the other hand, the crop of potatoes and cotton was said to be "somewhat less" than in 1954 despite the fact that acreage planted in cotton remained the same as in 1954 and that for potato-growing was increased. The harvest of grain was reported to have been "substantially higher than in 1954." However, that was obviously due mainly to a 360 % increase in corn crop. Whether any rise at all was registered in bread grain is carefully concealed by the elaborate vagueness of the report. One may thus conclude that, except in sugar beet, the main 1955 targets in vegetable production (as listed in Table III), modest as they were, were not attained. This failure is even more striking if we realize that, as a result of Khrushchëv's resolute drive toward putting under plough the Asian "virgin lands," 19.7 million more hectares were under cultivation in 1955 than in 1954 and 29 million more than in 1953, and that the area assigned to grain crops increased by 13 % over 1954 and by as much as 18 % over 1953.<sup>26</sup>

The animal production continued to rise in 1955 but, again, the rate of increase was far too slow to mean any definite improvement. The increment in cattle amounted to 3 %, yielding 2.1 million more heads, while there were 7.4 million more sheep (a rise of 6 %) and 1 million more pigs (less than 2 % more) than in 1954. Considering that the Soviet population grows by some 1.5 % per annum, the above gains could hardly enable the Russian housewife to begin shifting from *borshch* and *shchi* to beef steaks, lamb chops or pork roast.

The most spectacular claim of the CSA's Report on the fulfillment of the Plan in 1955 in the field of animal production is the assertion that *collective farms* turned out 31 % more milk than in 1954 and increased the yields per cow by 16 %. Yet, how many hectoliters of milk were actually produced, remained evidently a state secret, although Khrushchëv did reveal that 1.1 million tons of "butter and other dairy products" were turned out in 1955 and the Party Directives on the Sixth Five-Year Plan implied that the 1955 output of butter and other dairy products amounted to 13.4 million tons "in terms of milk." The CSA's Report admitted, however, that the productivity of cattle and the output of viands per 100 hectares were "on low level in many collective and state farms."

Thus the "New Course" endeavors to raise agricultural production have so far been signally unsuccessful and agriculture still remains the soft underbelly of Soviet economy. Duly partaking in the now fashionable crow-eating in public, the Soviet Premier, N. Bulganin, humbly declared before the 20th Party Congress in February of 1956: "Agriculture in the past five-year period developed

<sup>25</sup> See Table III. The numbers of animals vary substantially depending on the month of the year for which the census is computed.

<sup>26</sup> CSA's Report on the fulfillment of the Plan in 1955.

more slowly than was laid down in the directives of the 19th Party Congress and the tasks of the Plan in this sphere were not fulfilled."

That may well have been the understatement of the year.

### *Investments*

The lack-lustre performance of Soviet agriculture is in sharp contrast to the notable switch in favor of agriculture which had occurred in budgetary and investment policies under the "New Course." From 12.3 billions planned and 11.7 billions actually spent in 1953, the investments on agriculture jumped to 21 billions scheduled for 1954, outpacing thus by far the 15% rise in total investments in the same year. Similarly, the overall 1954 expenditures on agriculture reached the record-breaking figure of 74.4 billion rubles.<sup>27</sup> In spite of the renewed emphasis on heavy production in 1955, agricultural allocations were fixed at 65.2 billions which, although well below the 1954 figures, was still much higher than had been the sums appropriated for the same purpose in the Stalinist years.<sup>28</sup> The same applies to agricultural allocations in the budget for 1956, fixed at 56.6 billion rubles, as well as to capital investments on agriculture which are scheduled at quite a high level of 21.3 billion rubles.

The sharp rise registered in 1954 is partly caused by the reorganization of budgetary items which added to agricultural expenditures some 12-13 billion rubles in repayments of the collected turnover tax to procurement organizations. These repayments had previously been included under other items. On the other hand, the 1956 reduction in overall agricultural outlays is due partly to the substitution of lower current prices in the 1956 budget for the higher 1950 base prices previously used, and partly to the completion of the major part of the reclamation of the Asiatic "virgin lands."

In contrast to the rise of agricultural allocations and investments the promised speed-up in agricultural mechanization, another important "New Course" promise, seemed to be lagging behind in 1953 and 1954. However, the situation improved considerably in 1955, mainly due to stepped-up deliveries of tractors:

*Deliveries of machinery to agriculture  
(in thousands)*

	1952	1953	1954	1955
tractors in 15 HF units . . . . .	131	139	137	218
trucks . . . . .	57	69	116	112
grain combines . . . . .	41	41	37	46

*Source:* CSA's reports on plan fulfillments.<sup>29</sup>

<sup>27</sup> Figures on agricultural investments and allocations taken from the Soviet State Budgets and budgetary proceedings before the Supreme Soviet of the USSR in respective years.

<sup>28</sup> The 1953 budget, the last Soviet budget adopted while Stalin was still alive, earmarked 52.3 billion rubles for total agricultural expenditures (39.9 from the budget itself and the rest from funds of state enterprises).

<sup>29</sup> The Soviet Finance Minister, A. G. Zverev, claimed in his report on the 1956 Budget that agriculture received in the last two years more than 400,000 tractors in 15 HP units, 87,000 grain combines, and more than 230,000 trucks.

## III. THE LIVING STANDARDS

The most important Soviet claim—from the point of view of the Soviet common man—was the assertion that real wages had risen by 10% in 1953 and by 5% in 1954, or by full 13% in 1953 and 11% in 1954 if one adds the increased social benefits from the state, i.e., sums spent on social welfare, health and education. Compared to a corresponding claim for 1952, amounting to a 7% rise for the factory and office workers and 8% rise for the peasants, that would mean an acceleration in the increase of living standards by some  $5\frac{1}{2}\%$  in 1953 and by  $3\frac{1}{2}\%$  in 1954.<sup>30</sup> The rise claimed for 1955 was somewhat more modest: 3% for wages of "workers and employees" and 7% for peasants' income. Furthermore, 5% more was said to have been paid to the population in social benefits in 1955 than in 1954, although no attempt was made in the CSA's Report for 1955 to estimate how much these social benefits upped the average living standard.

It is difficult to believe that the Soviet claims for 1953 and 1954 correspond to reality. Even though they might be numerically correct, they undoubtedly take into account only the official government prices and not the prices prevalent in the "open market." However, as shown in reports of foreign correspondents stationed in Russia and foreigners who visited the country during the "New Course," the Soviet citizen cannot come close to meeting even his modest requirements by purchases in government stores at official prices.<sup>31</sup> Moreover, the continually recurring shortages of a great many price-reduced or less expensive items force the Soviet customer again and again to buy other items at considerably higher prices, both in the government stores and in the open market. Thus the Soviet statistics of living standards express the reality as accurately as would American indices if they were based solely or mostly on special bargain prices used to lure customers to the stores during "white elephant" sales. Also, the Soviet practice of calculating the so called "social benefits" into the average individual living standards is quite confusing and misleading. While undoubtedly such things as free hospital care, medical services, and old age pensions must be considered, it is difficult to express such services in a definite and reliable percentage increase of individual living standards from one year to another. In particular, it is highly questionable whether one can translate the increase in budgetary appropriations for education into so many per cent points increase in living standards per person. How much does it mean for the living standards of the Soviet man-in-the-street if the Government buys, for instance, so many hundreds of thousands of Lenin's works for school or other public libraries?

A study of the Soviet retail trade indices for the "New Course" era (see Table V) does indicate, however, that consumer goods became more readily available in the latter part of 1953. Following Stalin's death the Soviet leaders obviously reached deeply into the reserve stocks and made some hasty purchases abroad. The volume of retail sales rose thus by 21% over 1952. However,

<sup>30</sup> Figures taken from the respective CSA's reports.

<sup>31</sup> Cf., for instance, Harry Schwartz's article "Low Food Supply in Moscow Seen," *New York Times*, February 26, 1955. On the extent of the "private market" see Clifton Daniel's "Soviet Farms Use Profit System in Consumer Markets of Kiev," *New York Times*, October 5, 1954.

by 1954 the tempo began to slacken again, except for a small number of luxury items such as washing machines, vacuum cleaners, and television sets. In 1955, the volume of retail sales was reported to have risen by a meager 5%, i.e., by half as much only as in the last Stalinist year of 1952 when the rise amounted to 10%.

While the Soviet claims of a 13% and an 11% rise of living standards in 1953 and 1954 do not hold water, some of the financial burdens which used to weigh down the shoulders of Soviet citizens were lightened somewhat under the "New Course." A comparison of the Soviet budgets for the Stalinist and post-Stalinist eras shows that the burdensome turnover tax, which yielded 246.9 billion rubles in 1952 and 243.6 in 1953, was reduced to 234.3 in 1954 and actually brought in only 224.3 billions, thus reflecting the much-advertised price reductions. The trend continued into 1955 with the yield of the tax expected to reach 238.8 billions. But the 1956 budget calls for a steep rise of the revenue expected from the turnover tax to 271.2 billions, thus abruptly ending the relative "New Course" leniency in that respect.<sup>22</sup>

The taxpayer benefited also for a while by the lowering of direct taxes resulting mainly from a sharp cut in the agricultural tax. From 47.4 billion rubles collected in 1952, the yield of direct taxes sank to 46.1 in 1953 and was expected to bring 45.7 in 1954. With 1955 the direct taxes were on the rise again. The 1955 budget fixed the revenue from that source at 48.7 billions and the budget for 1956 raised it further to 50.3.

Yet another welcome easement came in the guise of a drastic reduction in the amount of the loans to the state which, though in theory voluntary, have in fact always been a compulsory levy on the Soviet wage-earners. From 36.3 billion rubles collected in such loans in 1952 they sank to 17.3 in 1953 and to an estimated yield of 15.9 in the 1954 budget. Unfortunately, the respite lasted only two years. The 1955 budget decreed a loan revenue of 30.5 billions, reverting thus almost to the level of Stalinist years, and the 1956 budget raised the sum further to 32.3.

On the other hand, one can note a continuous rising trend in the "social and cultural" expenditures from 122.8 billion rubles in 1952 to 128.8 in 1953, 141.9 in 1954, 147.0 budgeted in 1955 and 161.5 planned for 1956. One ought to point out, however, that 40% or more of these sums went to education which of all the "social benefits" is least likely to promote an immediate and dependable increase of individual living standards. Contrariwise, the increment in social insurance and social security payments was very slight between 1954 to 1955. A sharp rise is, however, scheduled for 1956 when expenditures under this heading are to rise from 45.8 budgeted in 1955 to 53.6 in 1956. As revealed by Khrushchëv's speech at the 20th Party Congress, the major part of the increased appropriations is likely to be used to raise somewhat the miserably low level of Soviet average old age pensions.

A few other figures also indicate that the rate of increase in social improve-

<sup>22</sup> These and following figures are taken from Soviet State Budget laws and from official announcements on the fulfillment of budgets.

ments had not been accelerated as much as advertised by Soviet propaganda, and in some instances had even lost momentum under the "New Course." Thus the output of medical goods which rose by 23% in the last Stalinist year of 1952, was vaguely referred to as having "considerably increased" in 1953 and as having risen by 19% in 1954. Only in 1955 was there again an increase in production pace amounting to 29%. As against an increase in the number of physicians by 14,000 in 1952, the corresponding increments during the "New Course" years were 11,000 in 1953, 10,000 in 1954 and "almost 12,000" in 1955. While the number of hospital beds was raised by 50,000 in 1952 and by 60,000 in 1953, no specific increase was announced in 1954 and the 1955 addition of "over 60,000" can hardly be called as spectacular.

Last but not least, the expectations of the Soviet population, encouraged by the lavish "New Course" promises, must have been rather disappointed in one of their most desperate needs, namely housing. An earnest effort had indeed been made by communist leaders to do something about this grossly neglected facet of Soviet living conditions. No less than 38 million square meters of housing were ordered to be built in 1954, which was some 30% more than the 1950-1953 annual average of 27-28 millions. However, only 32 million square meters were actually built, leaving the Plan underfulfilled by some 16%.<sup>33</sup> Some improvement materialized in rural areas where 470,000 new homes were reported to have been completed in 1954 as against the normal yearly average of 400,000 units.<sup>34</sup> In 1955 the communist efforts led to somewhat better results and the CSA's report claims that 35 million square meters of new housing were constructed in Soviet cities and more than 600,000 new homes built in rural areas "for kolkhoz members and peasant intelligentsia."<sup>35</sup> However welcome and praiseworthy these increases are, they are, nonetheless, far too small to ease the pitiful shortage of decent housing to any appreciable extent, in particular in urban areas when urban population grows at a rate of 4.5% per annum. That is all the more so because of a quick deterioration of poorly constructed houses, a notorious plague affecting the Soviet building industry. A substantial portion of new units do no more than replace older dwellings which are already falling apart, and the net addition of habitable square meters of dwelling space is actually less than the above figures would otherwise indicate. Even if all of the 150 million square meters of living space put into use during the Fifth Five-Year Plan, according to Kaganovich's statement on November 6, 1955,<sup>36</sup> could be considered as a net addition, it would still mean less than one square yard per person.

#### CONCLUSIONS

The results of the communist "New Course" can thus be said to have lagged a long way behind the lofty promises which had heralded its birth in 1953. It

<sup>33</sup> *Economic Survey of Europe in 1954*, p. 32.

<sup>34</sup> *Ibid.*, p. 70.

<sup>35</sup> Zverev claimed only 500,000 homes in his report on the 1956 budget.

<sup>36</sup> *Izvestia*, November 7, 1955.

is true that the heavy economic burden of the Soviet peoples had been somewhat lightened in the latter part of 1953 and in 1954 as compared to the harsh days of the Stalinist era. It is true that prices had been reduced on many types of consumer goods, taxes lowered, wages and social benefits improved, various troublesome economic duties temporarily alleviated, and a somewhat more liberal attitude taken, for a while, toward the peasants. While all this was welcomed by the Soviet common man, and in particular by the élite man who had benefited most, it is still a far cry from the expectations raised by the bombastic "New Course" propaganda. Moreover, it is too little to bring real and lasting satisfaction. It only whetted the appetite for further mouthfuls which were not to follow. What the "New Course" did was thus to place the Soviet peoples in the position of a hungry diner who had been served what he took for an appetizer and was waiting with pleasant anticipation for the first course of the dinner—only to realize that the appetizer was in fact the main dish, and that the promised days of plenty are still far far away.

*Appendix\**  
**TABLE I**  
*Soviet production of capital goods*

commodity	unit	1952	1953	1954 actual	1955 plan	1955 actual	1960 plan
coal and lignite	millions tons	301	320	347.1	372	391.0	593
crude oil	millions tons	47	52	59.3	70	70.7	135
electricity	billions KWh	116.4	133	149.4	163	170.2	320
pig iron	millions tons	25.2	27.5	30.0	34.1	33.3	53
crude steel	millions tons	34.5	38	41.4	44.2	45.2	68.3
rolled steel	millions tons	26.8	29.5	32.2	34.1	35.3	52.7
tractors*	thousands in 15 HP	131	139	137	200	218	322 <sup>b</sup>
grain combines	thousands	41	41	37		48	140 <sup>b</sup>
metal-cutting tools*	thousands	64	73	79		104.7	200
mineral fertilizers	millions tons	5.9	6.4	7.4	9.6	9.6	19.6
synthetic dyes	thousands tons	64.4	65.3	69.9			
paper	millions tons	1.4	1.6	1.7	1.7	1.8	2.7
cement	millions tons	14.1	16.2	19.3	22.7	22.4	55
slate	millions sheets	706	861	1007	1140	1490	3000
window glass	millions sq. meters	62	75	86		99.4	155
timber	millions c. meters	190 <sup>d</sup>	180	200	253	197	264
bricks	billions	17	19	21	23	20	

*Sources:* *Economic Survey of Europe in 1954*, pp. 54, 80, 262. *Economic Survey of Europe in 1953*, p. 266. *Economic Survey of Europe since the War*, pp. 42-43. *Pravda* and *Izvestia*, January 15, 1956. *Pravda*, February 15, 1956. Soviet official reports on goals and fulfillments of the Economic Plan.

*Notes:* a. delivered to agriculture. b. produced. c. Ministry of Machine Tool Industry.  
 d. in 1951.

\* Only such commodities as those for which comparable absolute figures are available for most of the "New Course" years are listed in the tables of this appendix.

TABLE II  
Soviet production of consumer goods

commodity	unit	1932	1933 plan	1933 actual	1934 plan	1934 actual	1935 original	1935 revised	1935 plan	1936 plan	1960 plan
cotton fabrics		4970	5300	5549	5590	6182	6267	6904	6485	7270	
woolen fabrics	millions meters	204	210	207	242	243	257	271	251	334	363
silk fabrics	millions meters	340	400	504	516	400	573	526	697	1074	
linen fabrics	millions meters	257	288	295			406	305		536	
knitted underwear	millions articles	196	237	326	288	326	382	430			
knitted outerwear	millions articles	44	45	79	51	79	88				
ready-made clothing	billions rubles*	36.6	38.6	37.6	44	51.7	51.8	51.3		580	
leather shoes	million pairs	270	263	267	281	318	318	299	349	78	
rubber shoes	million pairs	117*		104.6		109.4				455	
socks and stockings	millions	599	623	673	685	777					
sewing machines	thousand pieces	780	967	1135	1247	1176	2615	1608	2890	3780	
bicycles	thousand pieces	1667	1917	2500	2396	2292	3445	2877	3800	4230	
motorcycles	thousand pieces			190		225	244			395	
electric irons	millions	10.1	12.3	16.8	15.7	16.1	22	19.7		23	
clocks and watches	millions	1293	1642	2861	2890	2160	4527	4000	5720	10000	
radios	thousands	37	83	325	250	760					
television sets	thousands	33	97	65	243	189	483				
vacuum cleaners	thousands	27	11	111	143	200	206	86		528	
washing mach.	billion rubles*	62	66	207	127	330	151			635	
refrigerators	thousands	1281*		5.3	5.0	7.0	7.1	8.0	8.0	14.6	
furniture	millions tons			2966		3843					
kerosene stoves	millions tons										
meat	millions tons										
deliv. to state	millions tons										
output of food industry	millions tons										
milk	millions tons										
deliv. to state	millions tons										
whole milk production	millions tons										

TABLE II—*Cont.*

	thousands tons	thousands tons	thousands tons	thousands tons	thousands tons	thousands tons	thousands tons	thousands tons	thousands tons	thousands tons	thousands tons	thousands tons	thousands tons	thousands tons	thousands tons
sausages	600	637	696	710	773	850	830	850	850	850	850	850	830	830	830
canned meat	258*	258*	269	269	363	370	550	560	560	560	560	560	560	560	560
fish catch	2.2	2.2	2.4	2.4	2.7	2.7	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
butter	352	400	363	476	370	550	560	1100 <sup>d</sup>							
cheese	66.5	82	77.1	97	86.3	112	135	105	105	105	105	105	105	105	105
vegetable oils	0.96	1.08	1.1	1.1	1.23	1.38	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
granulated sugar	3.37	3.6	3.77	4.3	4.5	4.5	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
lump sugar	0.56	0.56	1.35	1.35	1.35	1.35	1.55	1.55	1.55	1.55	1.55	1.55	1.55	1.55	1.55
confectionery	1.28	1.38	1.4	1.58	1.44	1.44	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83
macaroni prod.	0.49 <sup>b</sup>	0.49 <sup>b</sup>	0.77	0.87	0.88	0.88	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
canned foods	1938	2500	2200	200	2562	3000	3134	3134	3134	3134	3134	3134	3134	3134	3134
beer	150	170	180	210	185	224	232	232	232	232	232	232	232	232	232
cigarettes	158	183	200	207	207	215	215	215	215	215	215	215	215	215	215
soap	0.7	0.8	1.0	1.0	1.0	1.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2

Sources: same as for TABLE I

Notes: a. in 1952 prices b. in 1951 c. in 1950 d. butter and other dairy products.

TABLE III  
*Crops and livestock numbers in the USSR*

commodity	unit	1952	1953	1954 plan	1954 actual	1955 plan	1955 actual	1956 plan	1960 plan
grain		131				182	103		180
wheat	millions	60.1				74.8			
cotton	tons	3.75 <sup>a</sup>				5.8-6.2			
sugar beet		27.7	32.6			39.4			
potatoes		87 <sup>a</sup>				148			
cattle		58.8 <sup>b</sup>	56.6 <sup>b</sup>	65.9 <sup>c</sup>	64.9 <sup>c</sup>		67.0 <sup>c</sup>	67.5-	68.6
pigs	millions	26.7 <sup>b</sup>	28.5 <sup>b</sup>	47.6 <sup>c</sup>	34.5 <sup>c</sup>	51.1 <sup>c</sup>	52.1 <sup>c</sup>	34.9-	36.2
sheep and goats	heads	107.7 <sup>b</sup>	109.9 <sup>b</sup>	135.8 <sup>a</sup>	144.4 <sup>c</sup>	117.5 <sup>d</sup>	124.9 <sup>d</sup>	158.4-	160.4

Sources: same as for TABLE I.

Notes: a. in 1950. b. January. c. October. d. sheep only.

TABLE IV  
*Indices of Soviet Industrial Production*  
Percentage increases over previous years

Capital production									
commodity	1952	1953	1954	1955	commodity	1952	1953	1954	1955
pig iron	14	9	9	11	tractors	7	13	22	21
steel	10	10	8	9	hydroturbines	24	35	82	22
rolled metal	12	10	9	10	hydrogenerators	38	15	62	10
lead	7	22	13		steam turbines	8	40	4	4
zinc	24	13	7		turbogenerators	30	47	4	23
coal	7	6	8	13	trucks	7	11 <sup>a</sup>	11	9
oil	12	12	12	19	bricks	19	12	13	12
gasoline	26	11	9	18	cement	15	15	12	18
natural gas	2		9	20	slate	26	22	17	18
electricity	13	13	11	13	window glass	22	14	15	
electric motors	6	13	14	16					
cotton fabrics	6	5	6	6	motorcycles	37	44	19	
woolen fabrics	8	9	17	3	automobiles	7 <sup>b</sup>	30 <sup>c</sup>	23	14
silk fabrics	29	78	29	2	soap	2	11	21	1
linen fabrics	12			6	meat	15	12	9	3
hosiery	12	10	14		fish	13	3	14	9
knitted underwear	16	18	5		sausages	16	11		
knitted outerwear	3	14	12		vegetable oils	9	16	11	
leather footwear	4	7		7	margarine	23	24	11	2
rubber footwear		3			butter	4	3	2	
furniture	14	27	8		dairy products	5	9	13	21
radios	6	27	76	22	cheese	15	16	12	22
television sets	125	100	94		sugar	3	12		31
phonographs	23	26	31		tea	12	6	11	
sewing machines	20	24	29	26	confectionery	12	9	3	
washing machines			1100		canned goods	11	14	16	18
refrigerators	59	92	61		beer	6	13	3	
vacuum cleaners	100	90	90		cigarettes	12	16	13	
cameras	28	9	54	33					
clocks and watches	9	22	28	20					
bicycles	43	15	25	21					

Sources: CSA's reports on the fulfillment of Economic Plans.

Notes: a. and automobiles. b. including trucks. c. "light vehicles."

TABLE V  
*Indices of Soviet Retail Sales through State and Cooperative Stores*  
Percentage increases over previous years

commodity	1952	1953	1954	1955	commodity	1952	1953	1954	1955
fish	13	8	18	14	clothing	11	29	22	9
animal fats	17		7		leather footwear	15	29	16	3
dairy products	17	36	10	25	furniture	over	39	25	18
eggs	9	16	6	17		20			
meat	10	36	16	7	radios		32	76	20
sugar	26	23	10		televis. sets	27	64	100+	60
confectionery	19	12	11		cameras		30	57	27
tea	12	16	20		sewing machines	22	34	25	13
vegetable oils and food					refrigerators			8	65
fats	17	19	22		washing machines			900	86
cheese		28	13	8	vacuum cleaners		130	170	
vegetables		25	15	15	phonographs	25	30	26	
woollens		18	25		clocks and watches	20	38	24	45
silk fabrics	20	45	28	4	bicycles	24	16	23	17
cotton fabrics		22	18		motorcycles		55	36	15
knitwear	17	23	23	8	automobiles		160	38	22
hosiery	11	31	24	8	soap	7			4
					fruit		43		28

Sources: as for TABLE IV.

## COMMUNICATIONS

### THE MULTIPLIER AND MONOPOLISTIC COMPETITION

Keynes and most of his followers ignored the effect of price changes on the multiplier process.<sup>1</sup> This omission resulted from an assumption of a perfectly elastic aggregate supply function up to full employment levels.<sup>2</sup> There is considerable evidence that Keynes and his colleagues felt that this assumption would not distort their analysis provided unemployed resources were available in the economy. Thus, Professor R. F. Kahn, in his pioneer article on the multiplier, states: "At the other end of the scale is the case, very much closer to the actual conditions that prevail today, where the supply of consumption-goods is perfectly elastic."<sup>3</sup> Or, from Keynes: "It is probable that the general level of prices will not rise very much as output increases, so long as there are available efficient unemployed resources of every type."<sup>4</sup>

A perfectly elastic aggregate supply curve would require competitive, constant cost market structures. If the analysis of even temporary price changes is to be avoided, excess plant capacity must be assumed.<sup>5</sup>

The great contribution of Keynes was his demonstration that Say's Law (supply creates its own demand) does not hold in time of depression. However, Keynes' assumption (demand creates its own supply) is not valid for an imperfect market, particularly in a prosperous economy. Let us consider the multiplier process in such a setting.

1. Let  $P_1$  and  $Q_1$  represent the equilibrium price and quantity for some final product  $X$ , produced by a representative monopolistic firm. Let there be an increase in demand as a result of an additional government expenditure of  $E_1$ , so that the new equilibrium is achieved at  $P_2$ ,  $Q_2$  and  $Q_0$  is the amount the original customers are buying.<sup>6</sup> Thus  $E_1 = (Q_2 - Q_0)P_2$ .

2. This is not necessarily equal to the increase in the firm's revenues ( $R_1 =$

<sup>1</sup> For a notable exception, see: O. Lange, *Price Flexibility and Employment* (Bloomington: The Principia Press, 1944), p. 86.

<sup>2</sup> J. M. Keynes, *The General Theory of Employment, Interest, and Money* (New York: Harcourt, Brace and Company, 1935), p. 295.

<sup>3</sup> R. F. Kahn, "The Relation of Home Investment to Unemployment," *The Economic Journal*, June, 1931, Vol. XLI, No. 162, p. 181. There are similar statements on p. 182 of Kahn's article. For the influence of Kahn on *The General Theory*, see Keynes, *op. cit.*, p. viii.

<sup>4</sup> J. M. Keynes, *op. cit.*, p. 300.

<sup>5</sup> Excess plant capacity seems incompatible with competitive, constant cost industries, so that induced investment must be considered in any event. Keynes recognized the relationship between the multiplier and induced investment in his article, "The General Theory of Employment," *Quarterly Journal of Economics*, February 1937, Vol. LI, pp. 220-221.

For a formal treatment of the relationship, see: O. Lange, "The Theory of the Multiplier," *Econometrica*, July 1943, Vol. XI, pp. 246-248; and P. A. Samuelson, "A Fundamental Multiplier Identity," *Econometrica*, July, 1943, Vol. XI, pp. 227-245.

<sup>6</sup> It is assumed that the income of the original customers is not altered by the change in expenditures.

$P_2Q_2 - P_1Q_1$ ). The relationship between  $E_1$  and  $R_1$  depends upon the price elasticity of the segment of the original demand curve enclosed by the prices  $P_2$  and  $P_1$ . If the segment is elastic,  $E_1$  will exceed  $R_1$ ; if the segment has unit elasticity,  $E_1$  will equal  $R_1$ ; if the segment is inelastic  $E_1$  will be less than  $R_1$ . Algebraically:

$$R_1 = E_1 + (P_2 - P_1)Q_0 - (Q_1 - Q_0)P_1.$$

Since  $(Q_1 - Q_0)P_1$  divided by  $(P_2 - P_1)Q_0$  forms an acceptable measure of price elasticity ( $e$ ), we may substitute and collect terms:

$$R_1 = E_1 - (P_2 - P_1)Q_0(e - 1).$$

Let  $\alpha$  be the ratio of  $R_1$  divided by  $E_1$ , and  $\beta$  be the ratio of  $(P_2 - P_1)Q_0$  divided by  $E_1$ . Then

$$\alpha = 1 - \beta(e - 1).$$

3. Therefore any additional expenditure for a final product is divided into two categories. The first is the increase in the firm's revenues ( $\alpha E_1$ ), which may be considered as an increment to the gross national product.<sup>7</sup> The second is the change in the consumers' expenditures on the product ( $\beta(e - 1)E_1$ ) which may be considered as a change in their disposable income for products other than  $X$ . Thus  $E_1 = \alpha E_1 + \beta(e - 1)E_1$ .

4. The amount that will be passed on in the second round will be: 1) the increase in consumption caused by the additional revenue for the firm (this would be equal to the product of the marginal propensity to consume the gross national product ( $c$ ) and  $\alpha E_1$ ); plus 2) the change in consumption caused by the change in the disposable income for other products (this would be equal to the product of the marginal propensity to consume the disposable income ( $m$ ) and  $\beta(e - 1)E_1$ ).<sup>8</sup> Thus  $E_2 = c\alpha E_1 + m\beta(e - 1)E_1$ . Let  $(c\alpha + m(e - 1)\beta)$  be designated by  $\theta$ , so that  $E_2 = \theta E_1$ .

5. Since the coefficients were calculated on the basis of a representative firm they will be appropriate in the analysis of the succeeding rounds of expenditure. Thus  $E_2$  will cause a change in the second round firms' revenues of  $\alpha\theta E_1$ , and of their customers' disposable income for other products of  $\beta(e - 1)\theta E_1$ . The third round of expenditure would then equal  $c\alpha\theta E_1 + m\beta(e - 1)\theta E_1 = \theta^2 E_1$ , and so forth.

<sup>7</sup> We do not consider induced investment in this paper, so it is assumed that inventories remain constant. Therefore the revenue for final goods and services in any period will equal the market value of the production of final goods and services in that period, or the gross national product.

<sup>8</sup> Technically speaking,  $m$  represents the marginal propensity to consume products other than  $X$ . Conceivably  $m$  could be larger than, equal to, or less than the marginal propensity to consume the disposable income, depending upon the relative positions of  $X$  and the various savings items in the consumers' hierarchy of wants. It is not assumed that the difference is decisive, however.

6. The multiplier is defined as the total change in GNP divided by the original increment to expenditure. Thus

$$K = \frac{\sum_{i=1}^N R_i}{E_1}.$$

Since  $R_i = \alpha E_i$ , we may write

$$K = \frac{\alpha \sum_{i=1}^N E_i}{E_1}.$$

From section 5 we get:

$$\sum_{i=1}^N E_i = E_1(1 + \theta + \theta^2 + \dots + \theta^N) = \frac{E_1}{1 - \theta}.$$

Therefore:

$$K = \frac{\alpha}{1 - \theta}.$$

Divide the numerator and denominator by  $\alpha$  and collect terms, so that

$$K = \frac{\frac{1}{1 - m\beta(e - 1)}}{\frac{1 - \beta(e - 1)}{1 - \beta(e - 1)} - c}.$$

It is apparent that the Keynesian multiplier  $(K = \frac{1}{1 - c})$  will obtain only when the ratio  $\frac{1 - m\beta(e - 1)}{1 - \beta(e - 1)}$  equals one. This could occur under one of the following conditions: 1) the marginal propensity to consume the disposable income is one; 2) the value of  $\beta$  is zero (as a result of the price not changing in response to a change in quantity); 3) the relevant price elasticity of demand is unity. The first and second assumptions are not likely to be correct. However, they are less incorrect for a depression economy than for a prosperous one. The third assumption may be appropriate for some situations, but it is not universal in its applicability.

It is generally agreed that the marginal propensity to consume the disposable income will be less than one. The value of  $\beta$  will be less than one except in the case where the demand is quite inelastic. Therefore, if an expenditure causes price changes that are predominantly in the elastic ranges of their respective demand curves, the ratio  $\frac{1 - m\beta(e - 1)}{1 - \beta(e - 1)}$  will exceed one, and the multiplier effect of the expenditure will be less than that indicated by the Keynesian model. The discrepancy results from a price induced decrease in the consumption function. That is, a rise in the price of the product initially affected by the increase

in investment causes the original customers to reduce their expenditures on that product, since their demand was elastic. This results in these individuals having a larger portion of their disposable income to allocate to other (presumably lower ranked) wants. On the assumption that some of these wants are savings items, it follows that the amount of savings associated with fixed levels of disposable income will increase. In other words, the consumption function falls.

If the price changes caused by an expenditure are predominantly in the inelastic ranges of their respective demand curves, the multiplier effect of the expenditure will exceed that indicated by the Keynesian multiplier, for the ratio  $[1 - m\beta(e - 1)]/[1 - \beta(e - 1)]$  will be less than one. Once again, the difference is explained by a price induced shift in the consumption function. The original customers spend more on the product whose price has risen, so that they have less income to allocate to other goods, including savings. Thus their consumption function rises.

The policy implications of the above analysis reinforce current doctrine. In an inflationary period, the government should shift its expenditures to products whose prices are in the elastic range of the demand curve, other things being equal. Presumably an industry producing such a product would tend to be monopolistic and conservative. It should be noted that large depreciation reserves, corporate taxes, and undistributed corporate profits are likely to be associated with such a market structure. A shift of expenditures in favor of such firms would tend to lower the marginal propensity to consume the gross national product, which would augment the price induced reduction in the multiplier.

During a depression the reverse implications are to be found. A shift in expenditures in favor of (relatively) competitive firms might cause price changes in the inelastic portions of the pertinent demand curves. A large marginal propensity to consume the gross national product is likely to be associated with such industries, which would further increase the multiplier effect of such a shift in expenditures.

It would seem that market structures do influence the behavior of aggregate economic variables to some extent. These relationships can be formalized, producing an integration of the analytical concepts of price and income theory. Such an integration should prove beneficial for both approaches to society's economic problems.

*Pennsylvania State University*

L. E. FOURAKER

#### *VALUE JUDGMENTS IN ECONOMICS: A COMMENT*

In an article in the October 1955 issue of this *Journal*,<sup>1</sup> Campbell R. McConnell reexamines the conflict between "policy economics" and "positive economics." Although Professor McConnell couples a succinct summary of these two approaches to economics with an excellent analysis of the fundamental

<sup>1</sup> Campbell R. McConnell, "Advocacy versus Analysis in Economics," *Southern Economic Journal*, October 1955, XXII, pp. 145-163.

points of conflict, he fails to treat an important aspect of the problem of the place of value judgments in economic science. The conflict is discussed as a problem which arises as a result of the nature of economics or of social science in general. There is the implicit assumption that all agree that in the physical sciences, in contrast to the social sciences, it is possible for the scientist, *qua* scientist, to avoid normative value judgments. It is the purpose of this comment to call attention to some recent discussion of this viewpoint in the literature of philosophy and to point out its particular relevance to the question of value judgments in "positive" economics.

In a recent article,<sup>2</sup> Richard Rudner has very persuasively argued that it is impossible for a scientist in any field to "fetter out" values. He argues that the scientific method, itself—i.e., the formulation and verification of hypotheses by inductive reasoning—involves normative value judgments in the selection of criteria for testing hypotheses. Such value judgments are particularly important in economic science because economic data are much less likely to yield conclusive evidence supporting a hypothesis than are physical data, given the same standards of scientific acceptability.

McConnell defines positive economics as a science "... detached from value judgments and ideological statements (except when they can be *and* are treated as psycho-sociological facts) ..."<sup>3</sup> He points out that economic positivism "... advocates the need for greater accuracy and objectivity *via* a rigorous divorce of values and facts."<sup>4</sup> Policy economics, on the other hand, is said to rest its case in part on the *practical* problems inherent in distinguishing factual from value statements. It is my contention that there are *logical* difficulties which have been overlooked by the economic positivists and also by their policy economist critics. The positive economists base their claim to scientific objectivity on their willingness to limit the scope of their statements as economists to those propositions which can be formulated so as to be tested empirically and then *verified* by the facts. This being so, an analysis of the scope and nature of economics must surely include inquiry into the nature of the statistical procedures by which hypotheses are generally verified.<sup>5</sup>

The question at issue is whether economists can verify hypotheses objectively—without making normative value judgments. No meaningful scientific hypothesis is ever completely verified. Therefore, as Richard Rudner points out, "... in accepting a hypothesis the scientist must make the decision that the evidence is *sufficiently* strong or that the probability is *sufficiently* high to warrant the acceptance of the hypothesis. Obviously, our decision regarding the evidence and respecting how strong is 'strong enough,' is going to be a function

<sup>2</sup> Richard Rudner, "The Scientist *Qua* Scientist Makes Value Judgments," *Philosophy of Science*, January 1953, XX, pp. 1-6.

<sup>3</sup> *Op. cit.*, p. 146. Italics in the original.

<sup>4</sup> *Ibid.*, p. 147.

<sup>5</sup> In cases of verification of economic hypotheses by less sophisticated, and more intuitive means, the role of normative value judgments is generally recognized and will not be discussed here.

of the *importance*, in the typically ethical sense, of making a mistake in accepting or rejecting the hypothesis.<sup>6</sup>

It might be argued that the value judgments which enter into the decision to accept or reject a hypothesis are of a different kind than those which the positive economist wishes to "fetter out." A strong case can be made, however, for the proposition that much of the disagreement among economists results from differences in just such value judgments. Any time that one scientist accepts a hypothesis as having been verified by the facts, other scientists, on the basis of the same evidence, might justifiably decide that the evidence is not sufficient and come to the opposite conclusion. Such differences in opinion—but not the value judgments—can be eliminated in two ways: (1) economists can reserve judgment until sufficient evidence has been obtained for the design of such a powerful statistical test that the probabilities associated with error are so small that everyone will agree, (2) economists may dodge the problem of explicitly making a value judgment by deciding upon some arbitrary level of significance to be used in testing all statistical hypotheses.

Economists have traditionally used the 5 per cent level of significance uncritically. This means that they are willing to reject a hypothesis about the true value of a parameter if the observed difference between the data and the hypothesis is such that the probability (if the hypothesis is true) of getting (by chance) so large a difference is 5 per cent or less. This probability, of course, stems from the particular theoretical *statistical* model used for the test. Thus the 5 per cent (or other level of significance) is itself a hypothesis subject to question, but generally accepted uncritically. If the hypothesis derived from the statistical model were true, then in using such a procedure for testing a hypothesis about parameters in economic models one could be confident that "in the long run" in all of those cases in which an economic hypothesis is *in fact true*, it will be *erroneously rejected* no more than 5 per cent of the time. The normative value judgments inherent in such procedures for verifying economic hypotheses enter in implicitly or explicitly at two points: (1) the point of deciding to use the 5 per cent level of significance as the criterion, and (2) the point of deciding on a theoretical statistical model from which to derive the level of significance in the particular test at hand. These two points will be considered in turn.

If we assume that one has chosen an appropriate statistical model—i.e., if we assume that the level of significance at which a particular hypothesis can be rejected is *in fact* what we compute it to be—the question remains whether one should reject merely because the level of significance is 5 per cent or less, or accept merely because it is greater than 5 per cent.<sup>7</sup> In answering this question, one needs to consider also the probability of *accepting* a hypothesis if it is in fact incorrect and some alternative value of the parameter is true instead.

<sup>6</sup> *Op. cit.*, p. 2. Italics in the original.

<sup>7</sup> For an excellent elementary introduction to statistical theory of testing hypotheses, see: R. Clay Sprouls, *Elementary Statistics for Students of Social Science and Business* (New York: McGraw-Hill Book Co., 1955), especially chapter 3.

For example, a part of a scientific investigation by an economist may require him to test the hypothesis that a population mean has the value \$4000. Suppose that a sample of 101 items are taken at random from the population and yield a sample mean of \$4200 and a sample standard deviation of \$1000. From elementary statistical theory we can easily deduce from the assumptions of randomness and normality of the population distribution this proposition: Of all the random samples of 101 items that might be taken from a population *with a mean of \$4000*, ninety-five per cent would have a sample mean within about  $1.96 \times \frac{\$1000}{\sqrt{101 - 1}} = \$196$  of \$4000. Since our sample mean is \$4200, we can reject the hypothesis at a level of significance of 4.56 per cent. That is, we can reject the hypothesis that the population mean is \$4200 using a criterion such that of all the times that we use this criterion we will make the error of rejecting a correct hypothesis no more than 5 per cent of the times in the long run.

In such a case should the hypothesis be rejected? Can we answer this question without making an ethical or normative, value judgment? We can reject with less than a 5 per cent chance of rejecting erroneously. Is this too great a chance to take? It depends on our subjective evaluation of the consequences of such an error. We could reserve judgment and gather more information. We could, however, accept the hypothesis that the population mean is \$4200 *and run no risk of rejecting erroneously*. Why not accept the hypothesis and avoid the 4.56 per cent chance of error? The only reason for not accepting the hypothesis is that we *might* be accepting the hypothesis that the population mean is \$4000 when in fact it is some other amount—say \$4500. If it is \$4500, then of all the random samples of size 101 that we *might* get, 99.7 per cent would have a mean within  $3 \times \frac{\$1000}{\sqrt{101 - 1}} = \$300$  of \$4500. Therefore, if the true mean is in fact \$4500, the chances of getting a sample mean as far below \$4500 as \$4200 would be about .15 per cent. Should we reject the hypothesis with a 4.56 per cent probability of rejecting if the hypothesis is true, or should we accept the hypothesis that the true mean is \$4200 and have only a .15 per cent chance of accepting when the hypothesis is not true and the true mean is \$4500 instead? Similar probabilities of accepting erroneously can be computed for any other alternative hypothesis about the value of the true mean.

The objective, positive economist cannot decide whether the hypothesis has been proven correct or incorrect without making the value judgment that one of the risks is preferable to the other. In much of the research that one might call "positive economic science" the value judgments are made one way or the other by default without a conscious decision.<sup>8</sup>

Normative value judgments enter into the verification of hypotheses on

<sup>8</sup> The literature of statistics indicates that there remain many unsettled questions in the theory of testing. Although much work has been done to advance the theory far beyond that indicated in the simple problem used as an example here, the elements of subjective value judgment have remained. See Leonard J. Savage, *The Foundations of Statistics* (New York: John Wiley & Sons, 1954), ch. 16.

another level as well. The probabilities of error on the basis of which the positive economist must choose to reject or accept are themselves deduced from a statistical theoretical model. These probabilities are therefore also hypotheses which might be accepted or rejected. Another statistical model might have been chosen. In the example above, if we had assumed that the population distribution had characteristics other than normal, or that some of the items in the population had a greater chance than others to be included in the sample, we could no longer say that, if the true mean is \$4200, 95 per cent of all samples of 101 items would have a sample mean within \$196 of \$4200. In more complex problems—e.g. multiple correlation—the variety of statistical models from which one might feasibly choose may be even greater. Statistical theory provides the economist with many very useful tools of analysis, but the value judgments are not thereby eliminated.\*

The importance of value judgment on the level of choosing a criterion, given a statistical model, may be lessened if sufficient evidence is available to reduce the probabilities of error. The scientists can reserve judgment until so much evidence is available that disagreement among scientists may not occur. The element of judgment cannot be removed, however, without complete information. Through controlled experiments the physical and biological sciences may be able to obtain sufficient evidence to satisfy most scientists. In the social sciences it seems that the degree of certainty obtainable is less. On the level of accepting the hypothesis that the statistical model chosen is appropriate the difficulty of designing controlled experiments increases the importance of these value judgments. Even in the physical and biological sciences differences in value judgments sometime result in different conclusions as, for example, in the case of the Salk vaccine, the relation of cigarette smoking to lung cancer, and the effects of fluoridation of municipal water supplies.

In view of the foregoing ideas, it would seem that the "rational integration or synthesis of the two views" which Professor McConnell hopes for is not too far away. If it is correct to reject the dichotomy between positive and normative approaches in economics, then the advocates of objectivity in economics might well turn their attention from the "fettering out" of value judgments to the *explicit* awareness of the inherent value judgments in the scientific method.

*Washington University*

DAVID D. MARTIN

\* Economic theory, dealing as it does with problems of choice, may become an indispensable tool of statistics.

## BOOK REVIEWS

*Individuals, Groups, and Economic Behavior.* By C. Addison Hickman and Manford H. Kuhn. New York: Dryden Press, 1956. Pp. xvii, 266. \$4.75.

This book is an attempt to effect a union between two disciplines: economics and social psychology. Up to this point the two disciplines have hardly been on speaking terms; their marriage is therefore a task of major proportions. One has the feeling that social psychology is here the dominant partner—economics is expected to learn rather than to teach.

What is wrong with economics is, of course, that she has been living too long with *Homo Economicus*, that atomic globule of maximizing behavior, all skeleton and no flesh, whose bony curves and dusty equations cannot hope to capture the richness and variety of human behavior. So in the first chapter the authors (one suspects with Kuhn in the lead) take us on an excellent tour of some competing *homos*. We pause first for a brief visit with Freudian Man, but find him rather passé, too Viennese to be truly social scientific, almost as individualistic as *Homo Economicus* himself, and cluttered up with instincts and untestable generalizations. We then visit the Levinian Man of field theory, finding him almost as much a robot as *Homo Economicus*, though moved, it is true, by others as well as himself. Then comes the Hullian Man of learning theory, who turns out to be a black box disguised as a rat, and finally we come home to *Homo Sociopsychologus* of self theory or role theory, who charms economics so much that she stays there for the rest of the book. Within a brief compass the authors do a remarkable job of exposition and criticism of the four competing behavior theories, most helpful to a mere economist.

As in ancient myths, however, economics comes to her new husband with three questions, which stupid *Homo Economicus* has been quite unable to answer to her satisfaction. The first is the question of managerial motivation: why do businessmen behave as they do? The second is the question of interpersonal comparisons: can we compare the utilities or the economic welfare of different persons? The third is the question of freedom and planning: are these really contradictory, or can we have both? In each case the economist propounds the question, and indicates the unsatisfactory nature of the answers given by economists: then the social psychologist pronounces the answer according to social psychology. Since I am an economist, I may perhaps be excused if I feel that the answers have a slightly oracular quality—stimulating, enlightening, but a little devoid of content.

The businessman, then, in the light of social psychology, is no longer seen as a profit maximizer, but as an actor, a player of a role which is set for him by the "reference group" around him—those people whose opinion matters to him. Every man's part comes to him as he sees himself reflected in those around him. His role is composed of "attitudes"—persistent responses to his perception of his environment. The most important element in the image of the role is made up of the expectations of others. We do, mostly, what is expected of us, and what we expect of ourselves. This is as true of the businessman as of any other: he moves

toward his image of his proper role, and this includes many other things besides profit. By asking people the right questions we can investigate their conceptions of the role of the businessman, and we can study the change in his role as he himself perceives it. Only by understanding the dynamics of the ideal role can we understand the dynamics of actual behavior.

So far, so good. *Homo Sociopsychologus* is a fine fellow. He doesn't tell us, of course, *just* what the new businessman will do if his competitor cuts a price, or if there is a stock market decline, or if interest rates rise, or if a new product appears, or if his accountant reports losses for three quarters in a row. He doesn't help us much with the definition of uncertainty, the composition of the asset structure, financial policy, the problem of growth and mergers. It is nice to know that in all these emergencies and situations the businessman acts like a businessman. It would be still nicer to know how businessmen act, and I am not sure that the social psychologist can tell us. Nor, curiously enough, does he seem to be able to tell us how decision-making in businesses is organized—how information reaches the executive, how the information that does reach him affects his decisions, and so on. One feels that a dash of cybernetics, organization theory, and even operations research would improve *Homo Sociopsychologus* greatly, and make him a much better rival to *Homo Economicus*.

And so to the second question. *Homo Economicus* says we cannot make interpersonal comparisons, that utilities can only be compared in the same head. On the other hand, everybody knows we *do* make interpersonal comparisons, and that no policy decisions can be taken without them. Welfare economics therefore reaches an impasse, and takes refuge on the remote and trivial peaks of the Paretian optimum. Here I must confess I found *Homo Sociopsychologus* rather disappointing. He says that people have different values, that the values of an individual are determined largely by the sub-culture in which he lives and moves, and that these values can be listed and studied by asking people the right questions about them. This is all very true, and it is interesting to know that the Amish children want different things from non-Amish, and that nearly everybody in this country thinks he belongs to the Middle Class. The Oracle, however, has performed a familiar trick of oracles, and instead of answering the question asked, has answered a lot of *other* questions in great detail and in a most convincing manner. The question is not about values-in-general or the ideology of material comfort. It is about *responsible behavior*—that is, behavior on the part of one individual or decision-making group which affects the lives and fortunes of others, especially when the decision maker in some sense feels responsible for the welfare of the people affected. A government policy makes Group A worse off and Group B better off: how to decide whether the advantage to B is greater or less than the loss to A? This is the problem, and I cannot see that values research has contributed anything to its solution.

The third question is a large, rather vague one about the compatibility of planning and freedom, the virtues or otherwise of the market, of Socialism, and so on—the large cottony controversy which envelopes such figures as von Mises, Hayek, Lange, and Barbara Wootton. Here the answer is probably better than the question deserves. It is pointed out that if any sense is to be made of the

controversy, we must differentiate the many different meanings of planning and freedom, and especially the "manifest" as opposed to the "latent" meanings—that is, what people think about these things (or specific embodiments of them) as contrasted with their actual effects in society. This is a fine answer. I cannot see, however, that role or reference group theory make much contribution to the answer, good as it is.

The book concludes with an excellent chapter on the methods of social psychology, dealing mainly with the measurement of attitudes and with content analysis. The mysteries of scaling, and especially of the Guttman scale, are explained in some detail. The economist will find this a most useful guide to some of the language of his colleagues in social psychology.

This is a book to enjoy for its vigorous point of view, its dramatic form, and its frequent insights. It would do every economist good to read it, provided that his almost inevitable irritation stimulates him to want to continue with the task of broadening the theoretical base of economics, rather than provoking him to abandon the task in despair. If these communications are to be fruitful, however, they must run both ways; the other sciences have much to learn from economics. On this score one would like to see a companion volume in which the contributions of economics to some unsolved problems of social psychology might be discussed—for instance, a little price analysis of the race problem, or a little maximizing theory applied to role-formation. If the difficulty with economic theory is its narrowness, the difficulty with social psychology is its seeming emptiness. It is a signpost pointing towards a valuable way of looking at things. It does not take us very far along the road.

*University of Michigan*

KENNETH E. BOULDING

*Money, Interest, and Prices: An Integration of Monetary and Value Theory.* By

Don Patinkin. Evanston, Ill.: Row, Peterson and Company, 1956. Pp. xx, 510. \$7.00.

This is a very important book. It will be studied with care by every student of monetary theory as well as by economic theorists. Mathematical economists also may be expected to pore over both the text and the extensive mathematical appendices.

*Money, Interest, and Prices* is a reconsideration of the entire substance of monetary theory in the framework of general equilibrium analysis. Professor Patinkin starts at the level of microeconomics with a simplified consumer economy model, passes on to a model in which there is production, and then, in the second part of the book, takes upon the macroeconomic problems of monetary theory. The tools employed are mainly those fashioned by J. R. Hicks, whose excess demand concept is used extensively. In its general pattern the book is modelled after *Value and Capital*, although the ideas are the author's without mistake. Throughout the treatment is rigorous and everything is presented with exceptional clarity. But prospective readers should be warned that the book is difficult withal.

Basically the method is mathematical even if the ideas are presented verbally

as Stigler has urged should be done. Mathematical symbols do appear in the text and in the copious footnotes, but only the timid will be driven away by this feature. The reader cannot escape realization that the mind at work is that of one who has more competence in mathematics than most economists even if mathematical proofs are confined to the appendices. Problems that are to be considered are stated almost as formally as in a mathematics textbook and their substance is treated by orderly logic. Particular emphasis is laid on demonstrations of stability conditions. At times the reader may feel that elegance is too much sought after but he cannot but admire the excellence of the performance. Had more of monetary theory been developed with the same meticulous care possibly the barren and fruitless disputes to which monetary theory has been given might have been avoided.

The mathematics are presented in a series of chapter appendices extending over 100 pages and following the 270 pages of text. The first of the appendices, it should be remarked, deals with the meaning of derivatives in economic analysis and has broad application. Following the mathematical appendices there is a series of notes (A through L) on the literature of monetary theory. These notes are a veritable treasure trove, for in their 100 pages one finds in capsule form a history of monetary theory. Walras, Wicksell, Fisher, and Keynes are covered among others, and all manner of myths about the content of classical monetary theory are exploded. The Say's Law controversy, it is to be hoped, has been brought to conclusion. Perhaps Professor Patinkin will find it possible to expand this material into a much needed book. Finally a ten-page bibliography and a twenty-page index of subjects and names complete the book which the author and publisher have presented as a highly finished piece of work.

Listing of topics and counting pages cannot possibly convey an idea of the wealth of substance in the book. In the course of developing his own original and consistent analytical framework Professor Patinkin has touched on all the major issues of monetary theory. Without getting side-tracked into mere polemics he manages to show the way out of a great many disputes such as the one over whether or not the demand for money has unitary elasticity. He demonstrates very convincingly that this is a dispute which should never have arisen. It developed from a crude and careless use of "demand." One awaits with interest the reaction of Keynesians to Patinkin's demolition of the liquidity preference theory of interest. But followers of other beliefs will also be dismayed to find that their idols too have feet of clay. Walras, for example, is shown never to have grasped the essential nature of money. And the Cambridge economists, despite their having been on the right track in their emphasis of real balances, failed to get to the heart of the central problem. Patinkin's most devastating work is performed on the Keynesian monetary apparatus, of which little remains, at least in a formal sense.

If one picks the two central ideas of this work, probably they are the "real balance effect" (once labelled mistakenly by him, says Patinkin, the "Pigou effect") and the dichotomy between relative and absolute prices. Neither of these can be gone into in a brief review. Suffice it to say that the real balance

effect is the quantity theory's means of assuring stability of equilibrium. The other matter, the dichotomy, relates to the alleged false distinction frequently drawn between the forces setting relative and general prices. The full import of what is involved here perhaps is understandable only to persons well versed in mathematical economics, but students of monetary theory will recognize that Professor Patinkin had addressed himself to this question in a series of stimulating journal articles. The issue is a vital one, and Professor Patinkin does not hesitate to say that he has revised his earlier views.

Some readers of this book may wonder that a 500 page book on money contains only a few references to practical problems in a world beset with inflation. This, however, is a book on the theory of money and at a very high level. There are no statistical tables, no attempts to provide empirical values for the book's numerous equations, and no overt prescriptions for public policy. Policy implications are not difficult to derive, and the analysis will suggest a host of challenging empirical investigations. Professor Patinkin is hardly to be criticized for not setting himself the task of writing both a pure theory of money and an applied theory of money in one volume. Although he may expect to hear some grumbling from those who are unimpressed by exercises in pure theory he may rightfully be proud of the product of his efforts.

*Duke University*

EDWARD C. SIMMONS

*The Theory of Economic Growth.* By W. Arthur Lewis. Homewood, Ill.: Richard D. Irwin, 1955. Pp. 453. \$6.00.

Here is the book which should have appeared after the publication of the Eighth Edition of Marshall's *Principles of Economics*. It would have joined Marshall's thinking in Book IV on economic development to lead the way towards an economics which might then have laid the foundations of a solid theory of growth, in all likelihood far less sterile than that of contemporary vintage.

It has been written by a man of numerous talents and wide erudition. He is a student of economic and social history and thought, from ancient times to the present; and has let little of value encountered in his study escape him. He particularly has an understanding of social behavior and institutions which marks him a social anthropologist as well as economist. What is more, he is no mean theorist. The product of this background is so perceptively encompassing and yet so interestingly written that both the well-read layman and academic economist will find great profit in its reading. It is truly a valuable contribution to economic thinking.

While the author states that "The purpose of this book is not to present original ideas . . .," nonetheless in its theoretical eclecticism, in its organization of the many ideas on economic growth, and in its approach to social policy are found the threads of a piquant originality. Indeed, it is the first major study on economic growth since Schumpeter's *The Theory of Economic Development* to escape the determinism which to no small extent characterized such efforts as Hick's *Trade Cycle*, Harrod's, *Towards a Dynamic Economics*, and others. In it

the weaknesses of a mechanistic approach to the theory of economic growth are clearly portrayed. The devastating reproof of Marx's theory is especially pertinent. Marx's prediction that there would be in capitalistic society an ever-increasing economic gap between employer and employee is denied by fact. Economic growth has instead been associated with a contrary course of events; mobility in and out of the various economic stratifications is quite general in capitalistic society and it is far from being related solely "to the evolutions of institutions."

To the author, there are three "proximate causes" of growth. The first is the will and effort to economize or to maximize resource use. This effort reveals itself through the attempts on the part of man to experiment and to take risk; the willingness to move from industry to industry and from region to region; and in the attempts to specialize. If these efforts are not forthcoming, custom and institutional setting favor attitude and conduct not conducive to growth.

The second proximate cause is the increased "accumulation and application of knowledge in production." This advance of knowledge requires "a reasoning, questioning, and experimental mind"; and a combination of environmental factors are in turn required for each: societies in which religion is competitive, societies in which political and economic powers are "diffused and liberally exercised," and societies where there are diversities of experience. The "greatest single social factor affecting technological progress" is that there be sufficient economic "incentive to invent or to adopt ways of increasing output."

Finally, growth is a function of the rate of increase of the stock of capital and other resources per worker. Associated with capital expansion is of course technology; in fact "... fruitful use of capital depends on ever improving technology, and the growth of knowledge is slower in less developed countries." What rate of capital growth is best for under-developed countries is perhaps not determinable, because acceleration of capital growth may lead to a reduction in "the fruitfulness of capital." The two most important limits upon adequate capital use "are shortage of skills, and inadequacy of public utilities."

The author's discussion of the role of saving in capital formation reveals a broad understanding of the theoretical issues surrounding this highly uncertain area of thinking. He is at ease in Classical, Keynesian, and Neo-Keynesian theories, and contributes pointed observations on the relationship of profits to savings and investment, on the hypothesis on the declining rate of profit in the Western Capitalism, and on inflationary methods of stimulating capital formation. The propensity to save, he demonstrates, is considerably greater for the entrepreneurial and peasant income classes than it is for professional and middle income groups. Consequently, the propensity to consume varies greatly by these kinds of income groups rather than by income brackets. Economic growth in turn is highly geared to the growth in the professional and middle classes and to their relatively high propensities to consume and, negatively, to their low propensities to save. Here is a refreshing change in point of view.

Beyond these proximate causes lie numerous secondary elements. These are the institutions which make possible innovation and investment and the atti-

tudes towards work, thrift, adventure, wealth, having children, and invention. Space prohibits expansion upon this portion of the book.

The chapters on economic institutions and capital formation are in themselves gems of thought and exposition. The evaluation of the secular stagnation thesis is the most judicious ever attempted. These and other qualities prompt the reviewer to find much to praise and little, if anything, with which to quarrel.

*Georgia Institute of Technology*

ERNST W. SWANSON

*Trends and Cycles in Economic Activity: An Introduction to Problems of Economic Growth.* By William Fellner. New York: Henry Holt and Co., 1956. Pp. xiv, 411. \$5.00.

The original Keynesian model, which was applicable primarily to the short-run, opened up new vistas by eliminating some of the equilibrators which in classical and neo-classical models maintained full employment. The famous Harrod-Domar models adapted Keynesian analysis to the problem of long-run growth, but because they left out the equilibrators, they seemed to many economists to be far too rigid. Now the work of adding equilibrators to the growth models is going forward. Fellner has addressed himself to the problem of why, in spite of the strict requirements of stability in simplified growth models, western economies have, over long stretches, been able to maintain something like steady progress without either chronic inflation or chronic depression.

In his view the main problem involved in growth is to keep inventions and improvements large enough in volume (a) to overcome the tendency for the marginal productivity of capital to fall as its supply increases and (b) distributed properly among the categories of labor-saving, capital-saving, and natural resource-saving. If inventions are overweighted in the direction of saving capital, the marginal efficiency of investment will fall too low to maintain full employment. If they are overweighted in the direction of saving labor, real wages will not rise fast enough to maintain social stability. In the western world, not only have inventions tended to be adequate quantitatively but also, thanks to an equilibrator, they have been of the right kinds. This equilibrator makes capital-saving improvements relatively more profitable under circumstances when capital is the scarcer factor and vice versa. Although this is Fellner's main theme, he covers a great deal of ground, including business cycles, the price level, various other conditions for growth, other equilibrators, the historical environment of growth, and policy problems.

Aside from Part I, which the reader is advised to skim or skip, the book is a valuable contribution. It will be widely read, it will appear on many reading lists for students, and it will stimulate empirical research. Surprisingly, Fellner has not considered one of the historically most important equilibrators: the tendency for the rate at which labor moved out of agriculture to adapt itself to the rate at which the growth process was creating jobs in industry. There may have been no chronic unemployment, but there was chronic malemployment (and still is). Another omission, this one less important, is analysis of the role of losses in the growth process. Fellner assumes that for growth to continue the

investments of the past must prove profitable. But losses are an integral part of a successful free enterprise economy.

Although Fellner has not said the last word on the subject, he has said a great many, and they are worth careful consideration. By the prevailing standards of the economics profession, his is a good book. Yet it is also evidence that those standards are not as high as they ought to be. In company with much excellent literature, his discussion shifts freely back and forth from model to reality so that the reader must be sharp indeed to be sure which he is talking about; he rarely sets down his assumptions in clear and concise form and accordingly his presentation lacks rigor; he displays little awareness that his models might be hypotheses requiring empirical tests, much less indicating what tests would be appropriate. One may assume that Fellner has these matters all clear in his own mind and has more or less incorporated them into the book; the point is that he has not made them clear.

Vanderbilt University

RENDIGS FELS

*David Hume: Writings On Economics.* Edited and introduced by Eugene Rotwein. Madison, Wis.: University of Wisconsin Press, 1955. Pp. exi, 224. \$4.50.

Students of the history of economic thought will be grateful to Professor Rotwein for bringing out this collection of David Hume's essays on economic subjects, together with extracts from a dozen letters passing between Hume, on the one hand, and Montesquieu, Oswald, Lord Kames, Turgot, Morellet, and Adam Smith, on the other. The essays included are those treating of "commerce," "refinement in the arts" or luxury, money, interest, balance of trade, jealousy of trade, taxes, public credit, and the populousness of ancient nations. The last printing of the Green-Grose edition of the essays, published in 1875, is that of 1918. Whence the essays have been hard to come by in recent years.

The value of this edition is enhanced in two respects. First, a useful index has been included, and this is of considerable assistance to the reader when he is checking Hume's views respecting particular subjects. Second, Professor Rotwein's excellent introduction, based on his dissertation on Hume done under the guidance of Professors Knight and Viner, serves both to introduce and to provide an assessment of Hume's thought and contribution. Of particular significance is his treatment of the connections obtaining between Hume's economic essays and his greatest achievement, *A Treatise of Human Nature*, which appeared somewhat earlier. The methodological basis of Hume's skepticism and empiricism is examined, and its significance for Hume's analysis of economic and political questions is disclosed.

Rotwein's discussion of Hume's economic psychology, together with his selections from Hume's relevant writings, illuminate the latter's treatment of instinct, passions, etc., and his use of these concepts in economic analysis. Similarly with respect to Rotwein's account of Hume's notable contributions to monetary, interest, trade, and fiscal theory, and to appreciation of the role of the free market, have long been highly valued by students of the history of

economic thought. Professor Rotwein brings out the interrelations between Hume's treatment of these several subjects, and sets in perspective the impact of these treatments upon the process through which liberalism came to supersede early 18th century mercantilism. Equally interesting is Rotwein's account of Hume's economic philosophy and of his theory of the rising commercial society. In a concluding chapter the genetic character of Hume's analysis is examined. The reader lays down this volume, disposed to accept Rotwein's finding, that "among the many forerunners of broad and systematic social inquiry Hume is entitled to a rank among its most distinguished contributors," and that Hume deserves to be remembered for "his more fundamental attempt to incorporate economics into a broader science of human experience."

*Duke University*

JOSEPH J. SPENGLER

*On Economic Theory and Socialism: Collected Papers.* New York: International Publishers, 1955. Pp. viii, 293. \$4.00.

This stimulating little book contains seventeen essays, which are for the most part concerned with a comparative analysis of capitalist and socialist theory on the one hand and capitalist and socialist practice on the other.

In the first essay, "the Entrepreneur Myth," the author seeks to show that the capitalist undertaker was not absolutely essential to modern economic development. He maintains, convincingly enough, that the "progression of economic forms is a function not only of the division of labor, but also of class differentiation" (p. 8).

The second essay, "A Sceptical View of the Theory of Wages," is devoted to a critical analysis of the classical wage fund theory.

Three articles on the "Problem of Economic Calculation in a Socialist Economy" are largely devoted to the exposition and refutation of the capitalist position that a socialist government can not successfully determine the optimum relationship between the factors in production, and that the optimum distribution of productive forces can only come about through the impersonal play of forces in an individualist economy. Dr. Dobb's final conclusions seem to be that "there is no easy nor precise way of defining a welfare optimum as a goal of social policy" and that "the claim to precision of any pricing system as an automatic optimum finder falls to the ground" (p. 86).

In the "Economic Basis of Class Conflicts" the author expounds and defends the notion of class division in economic society as being an essentially valid concept as against the position of some individualistic economists who maintain that economic class distinctions are basically unreal and invalid.

In the rather acute essay, "Some Tendencies in Modern Economic Theory," the author contends that modern individualist theory in abandoning the subjective marginal utility basis for consumer calculation has largely nullified itself. "After this drastic operation with Occam's razor one may well ask whether anything substantial is left upon which to erect a theory of price determination" (p. 113). In spite of its elegant mathematical streamlining, modern theory, according to Dr. Dobbs, merely reduces to the somewhat tautologous statement

that "things sell at certain prices because consumers buy them at those prices" (p. 113).

In "Rate of Growth Under the Five Year Plans" the author presents an analytical description of Russian economic growth from 1928 to the present time. In particular he defends the essential validity of Soviet statistical methods as against those who claim that the official USSR statistics concerning industrial growth can lay claim to little more than propaganda value. He qualifies this defence, however, by admitting a certain unintentional "upward" bias in some of these Russian figures. Part of this material is also found in article XIV, "Comment on Soviet Economic Statistics."

In a highly technical article entitled "A Note on the So-Called Degree of Capital Intensity of Investment in Underdeveloped Countries" he challenges what he calls the dogma that capital investment in underdeveloped countries needs to take the form of low capital intensity or relatively labor-saving and capital saving methods (p. 139).

In articles VIII and XIX, "A Lecture on Lenin" and "A Lecture on Marx" respectively, the author paints a favorable picture of the two great founding fathers of the system of Marxism-Leninism.

In article XII, "Historical Materialism and the Role of the Economic Factor," the author undertakes the refutation—rather successfully—of the thesis that the Marxist theory of history in magnifying the economic factor has practically nullified all other cultural factors and has, in fact, reduced man himself to a mere robot dancing to the tune of change in the production forms.

The last article XVII, "A Note on the Transformation Problem," deals with the Marxist formula for capitalist profit determination,  $\frac{S}{V + C}$  where  $S$  = surplus value,  $V$  = variable capital and  $C$  = constant capital.

The crucial part of the discussion turns about the relation of difference in the composition of capital (Variable Capital and Constant Capital) to the rate of profit. Of course, it is needless to say that the validity of this type of analysis rests upon the validity of the Labor Theory of value.

All in all Dr. Dobb's book makes a notable contribution to "Economics on the Left." After all, most of us have come a long way from the time when even the name "economist" was denied to those who did not accept orthodox classical theory practically in its entirety.

*Mercer University*

ARTHUR B. ANTHONY

*Economic Growth and Instability.* By D. Hamberg. New York: Norton and Co., 1956. Pp. xii, 340. \$4.00.

Professor Hamberg informs us in his preface that he has intended (1) to write a text for advanced students and professional economists, and (2) to write a monograph synthesizing his own work in the theory of economic growth with that of others. It appears to this reviewer that he has succeeded in reaching both objectives if we define "advanced students" as meaning graduate students who have some work in this area.

Hamberg builds his argument on the foundations laid by Domar and Harrod; however it is the growth model of the latter upon which he leans more heavily. Essentially, the argument developed is that net investment in the economy gives rise to growth in productive capacity via an increasing stock of capital. If the growing stock of capital is to be fully utilized, real income must grow at a rate sufficient to absorb it into production. Harrod's development of the conditions necessary to achieve the warranted or full-capacity growth rate is ably reviewed. The author then builds into the basic Harrod model the principal theme of the book—that economic fluctuations (the business cycle) as well as long-term secular trends (stagnation or exhilaration) in a capitalistic economy are best explained as part and parcel of the theory of economic growth. He develops the thesis that responsibility for economic fluctuations and irregularities in economic growth is rooted primarily in the irregularities of autonomous or innovational investment over time.

A chapter on the full-employment (of labor) growth rate of real national income *vis-a-vis* the full-capacity (of capital) growth rate, a chapter on lags in income growth, and a chapter examining the views of Schumpeter, Hicks, and others on lapses from steady income growth round out the book.

The growth models used in the book are set up in mathematical form. The level of mathematics employed seldom rises above basic algebra and never beyond simple calculus notations. But despite the precision of the mathematical models, the book has a certain air of vagueness about it. The economic meaning of mathematical symbols employed is not always explained adequately. If the book were written solely for those well versed in the theory of economic growth this would be of little consequence, but if the book is intended for economists desiring to expand their knowledge in this direction, the verbal exposition could be improved.

A provocative work in an area as controversial as this one is will raise many points with which one may take issue—points concerning assumptions, definitions, interpretations of empirical data, and even the basic thesis of the book. But most will agree that Hamberg has done a competent job. The book should be valuable to anyone interested in the theory of economic growth and instability.

Oklahoma A. and M. College

RICHARD H. LEFTWICH

*The Economics of Employment and Unemployment.* By Paul H. Casselman  
Washington, D. C.: Public Affairs Press, 1955. Pp. viii, 183. \$3.25.

The author of this little volume has intended it to be a "blend of economic theory, of concepts and facts . . . economic policy . . . centered around employment and unemployment." An early assumption made by the author indicates his eclectic approach to the subject of employment. He states that "no single economic theory in practice can succeed in explaining a given level of employment." His policy approach to the subject is indicated by his belief that "in most countries a high and stable level of employment is an impossibility without extensive government intervention."

In successive chapters a concise and almost elementary description and some analysis are devoted to Full Employment, Seasonal and Cyclical Variations, and

**Employment Forecasting.** The various definitions of full employment are weighed, followed by the author's own opinion, namely, that it "is a state of the economy whereby all persons desiring to work are able to find employment within a reasonable time at prevailing rates of pay, working hours and working conditions and in positions reasonably in line with their aptitudes, abilities and occupational interests." He excepts those frictionally and seasonally unemployed as well as those "truly" unemployable.

Casselman emphasizes that there can be no real test of national employment policy until normal effective demand can be free to operate without the "artificial stimulant . . . by war, the threat of war, and the preparation for war. . . ." One might question whether the author is realistic in implying that war and particularly cold war expenditures have not become and will continue indefinitely as a part of "normal effective demand."

Attention is given to the question of the full employment standard. Should it be qualitative or quantitative? Which measures, continuous or ad hoc, are most effective in meeting and maintaining the set standard? Casselman is inclined to favor the continuous measures such as fiscal and investment controls since, in his opinion, ad hoc procedures carry the risk of being applied too late.

In non orthodox manner it is bluntly claimed that "there is no satisfactory theory of employment." Rather, employment is a resultant of several constantly changing, interacting factors which, in themselves, cannot present us with a single, clear cut determinative explanation. In the author's opinion, the challenge of employment stabilization can best be achieved through the institutional factor of government. One cannot dispute the claim that "employers, consumers, and labor, along with government, jointly determine employment."

In this reviewer's opinion, this work achieves its major purpose of summarizing current thinking on the problem of maintaining maximum employment. It can serve especially well two useful purposes. First, it can "reach" the non-academic reader as a well written, simply stated account of an important economic problem. Second, this volume can be recommended as an excellent supplementary reading assignment in the conventional Labor Economics course.

*Alabama Polytechnic Institute*

CHARLES P. ANSON

**Capital Formation and Economic Growth.** A Conference of the Universities-National Bureau Committee for Economic Research. Princeton, N. J.: Princeton University Press, 1955. Pp. xiii, 677. \$12.00.

In November 1948 the Universities-National Bureau Committee sponsored a conference, the purpose of which was well expressed in the title of the published proceedings, "Problems in the Study of Economic Growth." Five years later, a second conference was held under the same auspices, this time to undertake a detailed investigation of the substantive issue of capital formation and its relationship to economic growth. The volume under review makes available the twelve papers presented at this most recent conference together with formal comments on these papers and occasional rejoinders by the authors.

An eclectic approach is adopted and the list of contributors includes econo-

mists, historians and sociologists. The resulting *potpourri* is impressive and occasionally so overwhelming in its scope that the reader becomes increasingly grateful for a concise introduction and the informal conclusions by the editor, Moses Abramovitz.

The first two papers consider the sources and channels of finance in capitalist countries. Professor Kuznets presents extensive data which prompt a reexamination of some widespread notions concerning (1) theoretical savings supply functions, and (2) the relative importance of international capital movements for world gross capital formation. His explanation of reported savings ratios is novel and worthy of attention. R. W. Goldsmith examines the connection between physical assets and the network of intangible debts and claims on these assets. He designates this relationship "financial interrelations ratio" and considers it an index of financial maturity which varies directly with a country's stock of physical assets. Also interesting is his treatment of the development of various types of financial institutions and the growing institutionalization of financial channels.

In contrast to these papers are those of Gregory Grossman and F. D. Holzman who concern themselves with savings and finance in the Soviet Union. Grossman examines the Fifth Five-Year Plan and finds noteworthy the substantial growth in incremental capital intensity. He explores the possible reasons for the retardation in the growth of the non-agricultural labor force. Holzman contributes an interesting paper on inflation and tax policy in Russia. His analysis treats the reasons for the heavy reliance on regressive commodity taxes, and the inflationary bias of pre-war planning.

A comparative analysis of the influence of enterprise and business organization on capital formation in developed and undeveloped countries follows. Bert F. Hoselitz traces the economic growth of Great Britain and France since 1700 and attempts to explain the British outdistancing of the French in terms of different entrepreneurial attitudes toward risk bearing. He attributes this difference in large measure to the degree of governmental intervention. The apparent relative unconcern of British mercantilistic policy toward internal economic affairs allowed a much more vigorous business group to develop than in France, where the role of government was much more pervasive. Thomas C. Cochran traces the role of the entrepreneur in American capital formation beginning with the early 19th century and, like Hoselitz, stresses the influence of political and social institutions as important determinants of the character of the emerging business class. He raises the point of the enormous influence of government military policy on capital allocation by private entrepreneurs in recent years.

Henry G. Aubrey analyzes investment decisions in underdeveloped areas and points up how rational economic decision-making may conflict with public development goals by favoring "nonproductive" investment, in luxury real estate for example, as opposed to "productive" investment in durable capital equipment. He performs the highly useful service of culling supporting evidence from the growing number of case studies of individual underdeveloped countries without leaving the reader exhausted as from a Cook's tour.

Marion J. Levy considers certain social obstacles to capital formation in underdeveloped areas. He makes an impressive contribution, unfortunately marred by occasional lapses into murky language and expression. His paper critically examines the cliché that the latecomers to economic development have a relatively easy time of it since they can vault the early painful stages by benefiting from the experience of those countries which developed earlier. The experience of China and Japan in their efforts to industrialize are compared profitably, from which the interesting conclusion is drawn that a tight social structure may lead to a more vigorous and successful industrial entrepreneurship than a looser system based on fluid class lines. Levy also considers the frustrating problems that may arise from what he calls "conspicuous industrialization"—the view so common in many poorer areas that a steel mill is necessary for national pride whatever comparative disadvantages may exist.

Abbott Payson Usher and W. Rupert Maclaurin explore various aspects of technological progress and investment. Usher critically examines the stroke of genius hypothesis of invention and rejects it in favor of the concept of new techniques appearing in a rather continuous stream, making for evolutionary rather than revolutionary change. His efforts to link technological progress to regional rather than industrial development is a little-used but promising technique in analyzing international differences in growth rates. Both Usher and Maclaurin point out that the sequence from general scientific principles to commercial application, by way of engineering development, is not invariant. Maclaurin reviews briefly the development of the automobile, electrical manufacturing, and radio and television industries and emerges with renewed belief in the fruitfulness of the Schumpeterian thesis linking innovation to a Kondratieff-type long cycle. His position here is a lonely one with Aubrey and other contributors reporting little evidence of Schumpeterian-type entrepreneurs in underdeveloped areas. Maclaurin reports the growing importance of service industries and believes this will intensify the need for organizational innovators who are more likely to be drawn from the ranks of the social than the physical engineers. He concludes with some provocative speculation as to those industries which will be the mainstay of the next long cycle.

Adolph Lowe introduces a change of pace with a tightly drawn exercise in model-building dealing with the structural analysis of real capital formation. His purpose is to study the "minimum physical capital requirements for various types of growth and the optimum paths that the system must follow in order to readjust the dislocations that different types of growth inflict upon a pre-existing state of stationary or dynamic equilibrium. . . ." This reviewer can heartily agree with Lowe in his view that "secular and cyclical problems cannot be studied fruitfully in isolation." W. W. Rostow attempts a synthesis of the work of the other contributors and inserts a plea for greater attention to sectorial analysis.

In evaluating this volume as a whole, a reviewer would be remiss in his responsibilities were he not to point out the high caliber of many of the commentaries on the main papers. With respect to the detailing of promising next

steps, certain of the commentators add substantially to the value of the book. This reader must confess to an occasional twinge of impatience with what appeared to be a plethora of detail and paucity of generalizable conclusions, reminiscent of the Cowles Commission-NBER debate of a few years back. This shortcoming may be inherent in the nature of such an undertaking and the reviewer does not hesitate to recommend this volume as a landmark accomplishment.

*University of Tennessee*

BERNARD UDIS

*Economics of Consumption.* By Willard W. Cochrane and Carolyn Shaw Bell. New York: McGraw-Hill Book Co., 1956. Pp. vi, 481. \$6.50.

What is the proper area of consumption economics? Each author who writes in this field has his own idea. The present authors have written this text to describe and analyze ". . . the decision-making of households within the frame of reference provided by modern economics."

At what level should a course in economics of consumption be given? Here also authors and teachers have a variety of opinions. This text assumes ". . . that student users will have completed a conventional course in the principles of economics." This is one aspect of the book which puzzles this reviewer. The authors admit that ". . . much of the material presented in Part I will be old stuff. . ." This is certainly true for a student who has previously been through Samuelson's *Economics*, which is quoted frequently and followed closely. It is not in Part I alone, however, that a student would find repetition of his Principles course. Much of the content of a Principles course will be found throughout the text. In Part II he will find a discussion and a rejection of the utility and indifference attempts to measure consumer demand. In Part III he will find a chapter on consumption, production, and income and another on the relation of consumption to economic stability. In Part IV there is a heavy emphasis on the derivation of consumer demand, elasticity, and the role of demand in price formation. A chapter purporting to deal with the consumer and the retailer deals almost exclusively with the retailer.

On page 79 "we come now to the heart of consumption economics." The central problem of choice is a paraphrase of the influence of custom, conspicuous consumption, fashion, imitation, and advertising.

Having proceeded to page 135 the reader is told that there is nothing new as yet. On page 140 the authors accept the maximizing principle and on pages 141-2 speak of the "received theory of consumer behavior." Yet a page later (143-4) they admit that the theory is non operational, which means that it "can not be used directly in real world situations. . . . The hard facts are that the theory of the household cannot be used directly (i.e., in day-to-day situations) to aid consuming units to increase their total satisfaction until the utility function of the consumers involved can be measured in some way" (p. 144). The authors then turn (p. 163) to the theory of minimizing consumer disutility, but if it is impossible to measure utility how can disutility be measured?

The expenditure approach to consumer behavior is introduced in Part III

with an historical summary of empirical investigations, including Engel. Chapter 12 deals with problems in empirical studies such as "whose consumption?" The emphasis then turns to the kind of treatment of consumption, production, and income which one finds in a principles text. In Part IV there is more repetition of demand schedules, pricing practices in the market, and even a break-even analysis (p. 364). Advertising gets a little over one page; resale price maintenance a little less than two pages; the Food and Drug Administration one page; the Federal Trade Commission a half page. The Wool and Fur Products Labeling Acts are simply mentioned.

After reading 459 pages one finds this generalization on page 460: "In general terms, it would seem that, if increased consumer information helps consumers to select the items which satisfy their wants at a lower net cost, then more information would be desirable." The authors have labored mightily to reach this conclusion. A student who has persisted to that sentence will have received a vast amount of "received" and "non operational" theory with a minimum of information.

This reviewer is sympathetic with every effort to contribute to the important area of consumption economics. Within the limits of 600 words an attempt has been made to give the reader a snapshot of the contents of this volume written for advanced students in a course "... comparable in level and coverage with a first course in money and banking, international trade, or labor economics." One suspects that students in the proposed course will find overmuch repetition of their basic principles course.

*Denison University*

LELAND J. GORDON

*A Study of Saving in the United States.* By Raymond W. Goldsmith and others. Vol. III. Princeton, N. J.: Princeton University Press, 1956. Pp. xix, 476. \$8.50.

This is the last volume of the tremendous study of saving undertaken by Dr. Goldsmith, bringing the total to some 2,100 pages. The first two volumes appeared in 1955.

The first volume contained some 850 pages of tables on saving from 1897 to 1949 and 225 pages of "Introduction." The latter element described the scope and method of the study and the findings with respect to a variety of considerations: the trend of total national and personal saving; saving of the main groups; distribution among forms of saving; cyclical fluctuations; and saving, national wealth, and the national balance sheet. The second volume explained the basic tables and discussed their derivation. These volumes had the virtue of placing first importance upon the integrity of the extensive spadework necessary to assure that succeeding students may advance by building upon this study.

The final volume does not, and is not intended to, change the view that the basic contribution of the whole undertaking lies in the compilations. The studies in it either contribute to the materials presented in the preceding volumes or are regarded as too tentative to compete for standing with the basic data, although most of this work is drawn upon for findings presented in the "Introduction" to the first volume.

Of the six parts, Parts II and III—some two-thirds of the book—are contributed by Dorothy S. Brady and Horst Mendershausen, respectively. These studies analyze information on saving not used in the time series of Volumes I and II: household expenditure studies and estate tax returns. Dr. Brady's study is on family saving from 1888 to 1950. It is regarded as not "completed on the scale originally envisaged," and Dr. Goldsmith suggests that it be considered as a set of unintegrated working memoranda. Statistical compilations are included in a voluminous amount in keeping with the source-book purpose of the whole work.

Dr. Mendershausen devotes some 200 pages to the pattern of estate tax wealth, using the "estate-multiplier" method, which, together with the rest of his procedure, he describes in detail. He makes exhaustive estimates of the wealth of decedents subject to the estate tax, the distribution of wealth among living persons in the upper wealth brackets, and the distribution of wealth among living persons by type of asset. Summaries of his estimates were published in *Studies in Income and Wealth*, Volume XIV (1952).

The other third of the book is contributed by Dr. Goldsmith. Part I, some 135 pages, supplements the tables of Volume I by offering national balance sheets and national wealth statements from 1896 to 1949. For early 1950, household balance sheets broken down in a variety of ways are presented. In Part V the author gives his estimates, back to 1897, of gross national product, net national product, national income, personal income, and disposable personal income. These are given in both current prices and 1929 prices, and both on the basis of replacement cost and on the basis of original cost depreciation. Dr. Goldsmith will be widely thanked for such an extension of our statistics. Part VI is a set of four tables of avowedly rough estimates of the value and distribution of nonoperating assets of private, nonfinancial, nonprofit institutions.

It is in Part IV that Dr. Goldsmith pays his respects to the problems perhaps uppermost in the minds of most economists concerned with the question of saving. The modesty of the author's appraisal of his accomplishment is suggested by his title, "Experiments with the Savings Function," and by the fact that his last section is headed "In Lieu of a Conclusion." His experiments are carried out entirely with time series, and no use in this connection is made of cross-section, household data. No comparison with the results of other studies is made.

For personal saving as a function of personal, disposable income, 1897-1949, the simple linear function  $S = a(Y - b)$  yielded a coefficient of determination of .71 when  $S$  and  $Y$  were expressed as aggregates at current prices, and .52 when values were deflated to 1929 prices and for population. When a catch-all allowance for time was introduced, these coefficients were raised to .74 and .85, respectively. (For shorter periods of time and for national saving, the results were considerably less satisfactory.) The introduction of liquid assets—interpreted as currency plus deposits in financial institutions—into the original function raised the coefficient of determination for price-deflated, per-capita values from .52 to .66 for the whole period, 1897-1949; a low coefficient of .47 resulted for 1897-1929, while 1929-1941 yielded .97. For the savings ratio in relation to the unemployment ratio, the coefficient for 1897-1949 was .73 and for 1930-49, .84. The

saving ratio in relation to the ratio of income to its previous high yielded, at best, .79 for the whole period.

Throughout the work, the treatment of bibliography and other aids to future workers are laudable.

*University of North Carolina*

CLARENCE E. PHILBROOK

*The Employment Act, Past and Future: A Tenth Anniversary Symposium.* Edited by Gerhard Colm. Washington, D. C.: National Planning Association, 1956. Pp. xii, 204. Paper, \$2.75.

This symposium was published in celebration of the tenth anniversary of the Employment Act of 1946 by the National Planning Association, "an independent, nonpolitical, nonprofit organization established in 1934. It is an organization where leaders of agriculture, business, labor, and the professions join in programs to maintain and strengthen private initiative and enterprise" (p. 24). This little volume is a typical illustration of the change in the economic philosophy of our generation which resulted in a wide and general acceptance of the responsibilities of government for the promotion of economic ends which, a generation ago, were presumed to be brought about by the "automatic" regulator of a free enterprise system alone.

The bipartisan character of the Employment Act, which was passed unanimously in the Senate and by an overwhelming majority in the House of Representatives, is emphasized by letters by President Eisenhower and Ex-President Truman in which they express their approval of the Act. President Eisenhower states that the Employment Act "rightly establishes as the policy and responsibility of the Federal Government the promotion of maximum employment, production and purchasing power" (p. ix), while former President Truman declares that "there is almost no other piece of domestic legislation enacted while I was President to which I would attach equal significance" (p. x).

Among the contributors to this symposium we find eleven of our outstanding University Professors of Economics, including such well known educators as Alvin H. Hansen and Paul A. Samuelson, ten other professional economists, some of them also teaching, including the present Chairman of the Council of Economic Advisers, Arthur F. Burns, and the two previous chairmen, Edwin G. Nourse and Leon H. Keyserling, seven Senators and Representatives who played an important role either in the legislative history or in the Congressional implementation of the Act, and nine others who may be classified as some of our outstanding leaders in business, labor, and agriculture.

The first part of the symposium is devoted to statements by leaders in national life expressing their viewpoints on the Employment Act. There is unanimous agreement on the desirability of the Act with somewhat varying opinions as to the actual benefits derived therefrom. We find some criticisms and some proposals for improvements. The most frequent criticisms, however, are not directed against the Act itself, but rather against the way in which it has been implemented by the present as compared with the previous administration. So, for instance, Walter P. Reuther, Leon H. Keyserling, Professor Theodore Krepps of Stanford University, and others censure the present administration for having

failed to include in the Economic Reports of the President of 1954 and 1955 quantitative estimates of levels of economic activity needed to fulfill the objectives of the Employment Act. Such failure is contrary to the specific requirements of the Act and to previous practice. Others express concern about the far too general terms in which the Reports are held and about the lack of sufficient attention paid to important segments of our economy, especially to agriculture.

After a joint statement by the Board of Trustees and the Standing Committees on Agriculture, Business, Labor, and International Policy of the National Planning Association which declares that "after ten years of experience under the Employment Act, there is no longer any important controversy about the government's basic responsibility for the promotion of economic growth and stability" (p. 79) there follows a series of seventeen essays dealing with specific issues involved in economic stabilization endeavors, such as the adequacy of monetary and fiscal powers, the effects of farm price stabilization programs, the attitude of labor, the effects of economic fluctuations in the United States on the rest of the world, and others.

The last part of the volume presents an opinion survey of "a cross section of leaders in the fields of agriculture, business, labor, and the professions" (p. 175) on the benefits derived from the Employment Act. This survey indicates the approval of the Act by an overwhelming majority of those who returned the questionnaires. Thus, for instance, on the question as to whether it is "excellent legislation, good legislation, unnecessary, or bad legislation" only two per cent of the "leaders in business" and none of the "leaders in agriculture, labor, or the professions" considered it "bad." The validity of this questionnaire is probably doubtful as the survey was made "of members of NPA's Board of Trustees, Standing Committee and National Council" (p. 175).

There is an apparent lack of presentation of the views of those few who still believe in "pure" capitalism and who, therefore, would be opposed to any legislation of the type of the Employment Act. In spite of this "shortcoming," this reviewer considers this little volume a valuable survey of professional opinions which will prove interesting to all those desirous to gain a better understanding of the attempts of our government to assure "maximum employment, production, and purchasing power."

*University of Alabama*

HARRY SHAFFER

*Emergency Disputes and National Policy.* Edited by Irving Bernstein and others.

New York: Harper & Brothers, 1955. Pp. xl, 271. \$3.50.

This volume is the latest in a series of publications of the Industrial Relations Research Association. Earlier volumes have pertained to manpower problems and policies, industrial productivity, the aged, the psychology of labor-management relations, as well as the papers presented at the annual meetings of the Association.

The present publication, *Emergency Disputes and National Policy*, revolves around the question, "What does the interested legislator and citizen need to know in order to shape a national policy for emergency disputes?" This query is

divided by the editors into three subquestions: "(1) what is a national emergency dispute? (2) what is the Taft-Hartley experience? and (3) what are the elements of a national policy?" These subquestions form the three major sections of the book.

Authors of individual chapters include not only the editors but also George H. Hildebrand, Benjamin Aaron, Frank M. Kleiler, Arthur J. Goldberg and Jack Barbash, Alexander R. Heron, Frank C. Pierson, W. Willard Wirtz, J. Keith Mann, Archibald Cox, Murray Edelman and Charles M. Rehmus.

The policy problem the authors discuss is created because the public endorses collective bargaining as a means of resolving labor-management difficulties while it simultaneously insists that a labor dispute not curtail "essential" production or services. This problem becomes evident when it is pointed out how actual or even potential government intervention in a dispute can seriously weaken the collective bargaining process. To the authors this means that if collective bargaining is to be retained as the primary means of resolving labor-management difficulties in "essential" industries, the government must develop techniques that will minimize the potential adverse effects intervention in a dispute will have on the bargaining process. The authors explore the possibility of the government using variations and combinations of voluntary and compulsory mediation, voluntary and compulsory arbitration, fact-finding, injunctions, industry panels, seizure, and the "choice-of-procedures approach."

The editors in their introduction set forth several ideas that run through the authors' analyses. Summarized briefly they are: (1) An evaluation of the great strike is complicated by its multisided character. It must be analyzed not only in terms of its economic effect, but also in terms of its impact on politics, government of private organizations, public opinion and military policy; (2) there are sharp differences in the impact of strikes in the same industry as well as strikes in different industries; (3) the problem of the national emergency has been exaggerated in the public and legislative minds; (4) the low incidence of national emergencies reflects the current stage of economic and bargaining organizations; (5) the main charge against the national emergency disputes provision of the Taft-Hartley Act is not that it is wrong but rather that it is ineffective; (6) there is no "solution" to the national emergency strike problem; (7) any policy pertaining to this problem must be flexible; (8) governmental intervention must be executive action; (9) the most significant factor giving edge to the emergency problem is foreign relations.

There is a difference in depth of analysis and literary style among the chapters which may be attributed to the acknowledged editorial objective to present a symposium on the emergency disputes problem. According to the editors, "the author of each chapter was assigned little more than his title and was instructed to develop his analysis as he saw fit." The result is a single volume that presents much valuable insight into the emergency disputes problem and one that is characterized by a surprising degree of agreement among the authors about the extent of this problem and its possible solutions.

*University of North Carolina*

WILLIAM L. IVEY

*Can We Solve the Farm Problem? An Analysis of Federal Aid to Agriculture.* By Murray R. Benedict. New York: Twentieth Century Fund, 1955. Pp. xix, 601. \$5.00.

In 1951, the Twentieth Century Fund undertook a comprehensive study of the efforts of the federal government toward solving the problems of the farmer and agriculture. In their opinion, the information derived therefrom would serve to alleviate a deficiency of understanding about that sector of the economy on the part of the farmer and the public in general. This book is the first of two volumes directed toward that end. It seeks to do this task primarily by presenting the various government programs in behalf of, or relating to, the American farmer since 1920, with some evaluation of the results of the programs.

The author begins with what he considers to be the causes and nature of the farm problems, emphasizing that these have been different for each of four successive periods—the 1920s, the 1930s, the 1940s, and the 1950s. Next he briefly traces the evolution of modern agriculture, giving consideration to some of the more important characteristics of agriculture such as the types and sizes of farms, farm mechanization, farm population and income, supply and demand situations, and others. Eight of the twelve chapters are devoted to an analysis of government legislation in the interest of agriculture. The first of these presents the federal farm policies designed to improve farm living conditions through research, service, and educational programs. Seven chapters discuss the "action programs" of the government, programs affecting marketing and production aspects of agriculture designed to influence supply, price, or redistribution of national income. The concluding chapter pertains to two decades of experiences, giving a critical evaluation of the past programs with some general remarks on alternative solutions. The author considers that the current programs reflect too much of an "antidepression" attitude, which was inherited from the farm experiences of the 1930s. He considers that "the time seems now to have arrived when we must, whether we wish it or not, look ahead and try to develop a farm program suited to conditions that do not reflect either the extreme anemia of the depression years or the robust demand of the 1940s" (p. 432).

The book includes a report of a special committee concerning the agricultural problems which are currently the most important. The difficulty of the problem under discussion is brought out by the footnoted exceptions and clarifications of the individual committee members. The same fact is further demonstrated by the supplemental report filed by two committee members.

In the opinion of this reviewer, the author has handled a difficult assignment in an objective and capable manner. The book is written with clarity and understanding and provides much information about one of America's major domestic problems. It is doubtful, however, that he has succeeded in reaching his chosen audience, namely the farmer, the public in general, and the general reader. The reading habit of the American public being what it is, it seems unlikely that man will take the time to "plough" through six hundred pages of facts, figures, and law not to mention the seven hundred and forty footnotes which the author saw fit to include.

The book is recommended to those who wish to get a general picture of the various federal laws designed to aid agriculture.

*Louisiana Polytechnic Institute*

KENNETH R. GRUBBS

*Standard Oil Company (Indiana): Oil Pioneer of the Middle West.* By Paul H. Giddens. New York: Appleton-Century-Crofts, 1955. Pp. xviii, 741. \$7.50.

Too often in the preparation of a business history, an industry wants what is sometimes referred to as a "white wash job." Fortunately, in this instance, Dr. Giddens and research assistants were given a free hand to plow through the many documentary materials available. One of the major problems must have been the selection of pertinent data in order to present a balanced account of the development of the industry.

In 1889 Standard of Indiana was formed by the Standard Oil Co. of N. J., a trust. When dissolved by an anti-trust suit in 1911, Standard of Indiana was restricted to the midwest area and the splinter company, basically a marketing operation, needed a supply of oil for its refineries. During World War I some gains were made quietly but the postwar period saw a lusty, expanding industry faced with competition of all kinds. Many moves were made to hold or expand the market. The giants of the oil industry fought each other and often lost to the "free lancers," particularly during the depressed 1930's. The company weathered these storms and maintained better than average quality products.

The general reader will follow the technical processes of extracting oil products, at least in the early stages, but may be slowed down as the processes become more complicated. The problems of oil sources and plant location are well treated as well as the complications of marketing the products in a relatively restricted area. To meet the market demand, the major plant at Whiting, Indiana had to be supplied with oil as did other more localized installations.

As a result of the above needs, Standard of Indiana became involved in many anti-trust and other litigations. The "deals" made by company officials, particularly Col. Stewart, brought about legal complications that were often expensive to the company both in money and public opinion. The reader will feel that Standard was "always right," sometimes a "little wrong" but the others "a little worse." For the business or economic historian, the complications are of great interest but most readers would become lost in the detail . . . names, places, arguments, etc.

Standard of Indiana led the field in marketing the product. Wholesale and direct retail delivery became the long range key to expansion. The company had acquired oil sources within the country and in foreign areas, particularly Venezuela. The sale of foreign properties in the 1930's enabled the company to purchase within this country vast additional producing areas at low prices. With these resources and plant facilities, the company maintained direct marketing to urban and rural communities. Although falling behind occasionally, the products delivered were usually equal to or better than competition. Industrial and marketing research are today one of the prime fields of activity. The advanced industrial relations plan of the company was satisfactory to the point

that only through recent federal labor legislation has a move been taken into modern union organization.

A few more maps locating properties held at specific periods and charts showing the ownership of Indiana in other companies would aid the reader in interpreting both position and policy of the company. The illustrations of the Burton cracking processes and other related pictures and diagrams are to be commended. In conclusion, this mine of information is largely for scholars rather than the general reader.

*University of Alabama*

FRANK E. DYKEMA

## NOTES

### PROGRAM OF THE TWENTY-SIXTH ANNUAL CONFERENCE OF THE SOUTHERN ECONOMIC ASSOCIATION

*Sir Walter Hotel, Raleigh, North Carolina, November 16 and 17, 1956*

*Friday, November 16, 1956*

8:00 A.M.—Meeting of the Executive Committee

#### Morning Sessions

9:00 A.M.—The Study of Economic Growth. Chairman: C. Addison Hickman, North Carolina State College.

1. Recent Developments in Growth Theory. Joseph J. Spengler, Duke University. Discussion: T. Murray Havens, University of Alabama.

2. Some Important Areas of Empirical Study of Economic Growth. Simon Kuznets, The Johns Hopkins University. Discussion: Richard T. Selden, Vanderbilt University.

9:30-10:30 A.M.—Seminar A: Marketing. Chairman: S. W. McFarland, Georgia State College.

1. Interstate Trade Barriers in the South. Clyde C. Carter, University of North Carolina.

2. International Trade and the South. Robert W. French, Port of New Orleans.

3. Marketing Curricula in Southern Schools. John R. Craf, University of Louisville. Discussion: J. E. Gates, University of Georgia, M. G. Bridenstein, University of Arkansas, and A. G. Gruchy, University of Maryland.

11:00 A.M.—Seminar B: Marketing. Chairman: R. C. Weems, Jr., University of Nevada.

1. The South as a Consumer Goods Market. J. L. Fulmer, Emory University.

2. The South as an Industrial Goods Market. M. R. Brewster, Georgia Institute of Technology.

3. Southern Economic Development: Fact or Fiction? J. M. Stepp, Clemson Agricultural College. Discussion: A. J. Bartley, North Carolina State College, L. A. Thompson, University of Virginia, and G. D. Butterworth, University of Florida.

9:30 A.M.—Seminar C: The Manager's Concept of Management's Role in Economic Affairs and Development. Chairman: Chester F. Lay, Southern Methodist University.

1. From the Viewpoint of the Professional Management Association. Robert H.

Laws, Society for Advancement of Management.

2. From the Viewpoint of Industrial Management. Claude S. George, Jr., University of North Carolina.

3. From the Viewpoint of Top Administrative Management. George P. Torrence, Emory University.

4. From the Viewpoint of the Management Consultant. Robert W. Elsasser, Management Analyst, New Orleans. Additional discussants to be selected.

10:30 A.M.—Seminar D: Southern Growth Patterns. Chairman: Ralph C. Hon, Southwestern University.

1. Patterns of Recent Capital Growth in the South. Gerald E. Waran, Tulane University. Discussion: John B. McFerrin, University of Florida.

2. Economic Development of the Upper East Tennessee Valley: An Historical Approach. William H. Nicholls, Vanderbilt University. Discussion: Clarence H. Danhof, Tulane University.

3. Baton Rouge Trade Area Development. Leon C. Megginson, Louisiana State University. Discussion: H. Ellsworth Steele, Alabama Polytechnic Institute.

9:00 A.M.—Seminar E: Economic Theory. Chairman: Ernst W. Swanson, Georgia Institute of Technology.

1. *Ceteris Paribus*: Some Notes on Methodology. James M. Buchanan, University of Virginia. Discussion: Jesse W. Markham, Princeton University.

2. Some Effects of Oligopoly on Resource Allocation. Richard H. Leftwich, Oklahoma A. and M. College. Discussion: Clark Lee Allen, North Carolina State College.

3. Schumpeter's Views on the Relationship of Economics and Philosophy. Alfred E. Chalk, Jr., Texas A. and M. College. Discussion: Paul W. Paustian, University of Alabama.

10:00 A.M.—Seminar F: Labor. Chairman: Gladys Boone, Sweet Briar College.

1. Influence of Plant Size on Union-Management Relations. Sherrill Cleland, University of Richmond. Discussion: F. Ray Marshall, University of Mississippi.

2. State Seizure Legislation and Collective Bargaining. Ben F. Curry, Mem-

phis State College. Discussion: William H. Wesson, Jr., Louisiana State University.

3. Workman's Compensation for Public Employees in Alabama. John W. Kennedy, The Woman's College of the University of North Carolina, Sherman C. McIntyre and H. Ellsworth Steele, Alabama Polytechnic Institute. Discussion: James C. Vadakin, University of Miami.

12:15 P.M.—Marketing Group Luncheon.

#### Afternoon Sessions

2:00-3:45 P.M.—Seminar A: Income Studies, I. Chairman: T. I. Storrs, Federal Reserve Bank of Richmond.

1. Influence of Size Upon the Economic Characteristics of Towns and Cities. Edgar Z. Palmer, University of Nebraska. Discussion: Lorin Thompson, University of Virginia.
2. Absolute Gains in Real Per Capita Personal Income. Lowell D. Ashby and W. Allen Spivey, University of North Carolina. Discussion: Thomas R. Atkinson, Federal Reserve Bank of Atlanta.

4:00 P.M.—Seminar B: Income Studies, II. Chairman: Herman H. Chapman, University of Alabama.

1. Government Payrolls and State Per Capita Incomes, 1929, 1939, and 1952. Howard G. Schaller, Tulane University. Discussion: Wylie Kilpatrick, University of Florida.

2. Uses of Income Data and Income Analysis. Lewis C. Copeland, University of Tennessee. Discussion: John L. Johnson, University of Kentucky.

2:30 P.M.—Seminar C: Economic Growth of State and Local Areas: The Role of Public and Quasi-Public Agencies. Chairman: Werner Hochwald, Washington University.

1. Effects of State and Local Fiscal Policies Upon Economic Development. William A. Ross, Louisiana State University. Discussion: B. U. Ratchford, Duke University.

2. Effects of Federal Legislation Upon the Industrial Development of Arkansas. Charles Marberry, University of Arkansas. Discussion: Charles M. Stephenson, Tennessee Valley Authority.

3. Financing of New Industries in Florida. Felix Muehlner and James C. Richardson, University of Florida. Discussion: Alfred G. Smith, University of South Carolina.

4. Reports of Some State Development Programs and Agencies.

2:30 P.M.—Seminar D: Financial Growth and Changing Monetary Policies.

Chairman: Cecil C. Carpenter, University of Kentucky.

1. Financial Growth and Monetary Controls. John G. Gurley, University of Maryland, and E. S. Shaw, Stanford University. Discussion: Clifton H. Kreps, Jr., University of North Carolina.

2. Administration and Control of Credit at the Level of the Individual Firm. Fred S. Morton, Davidson College. Discussion: Gaines Rogers, Wake Forest College.

3. Changes in Commercial Bank Assets: Their Implication for Monetary Policy. C. Arnold Matthews, University of Florida. Discussion: Dewey Daane, Federal Reserve Bank of Richmond.

2:30 P.M.—Seminar E: Foreign Area Growth Studies. Chairman: D. Clark Hyde, University of Virginia.

1. Population Problems in Latin American Development. Robert S. Smith, Duke University. Discussion: E. Gómez del Rey de Kybal, Pan American Union.

2. Egyptian Agrarian Reform and Prospects for Economic Development. William O. Thweatt, Vanderbilt University. Discussion: John H. Dalton, University of Maryland.

3. Some Neglected Forms of Foreign Assistance: Reflections Suggested by India. George B. Baldwin, Vanderbilt University. Discussion: James C. Ingram, University of North Carolina.

2:30-3:45 P.M.—Seminar F: Marketing. Chairman: Donald J. Hart, University of Florida.

1. Wholesaling in the South. J. M. Parrish, Mississippi State College.

2. Selling in the South Today. C. W. Ehlers, Georgia State College.

3. Functional vs. Quantity Discounts. C. A. Phillips, University of Tennessee. Discussion: C. McF. Gittinger, University of South Carolina, K. E. Ashburn, McNeese State College, and E. S. Troelston, University of Georgia.

4:00-5:30 P.M.—Seminar G: State Marketing Reports. Chairman: K. D. Reyer, Louisiana State University.

- Alabama, D. F. Mulvihill; Arkansas, H. A. Frey; Florida, R. B. Thompson; Georgia, W. H. Harris, Jr.; Kentucky, F. G. Coolsen; Louisiana, J. W. Reddock; Maryland, Dwight Gentry; Mississippi, Roy Klages; Missouri, S. G. Wennberg; North Carolina, W. W. Howell; Oklahoma, D. M. Crites; South Carolina, E. E. Brown; Tennessee, P. D. McCoury; Virginia, B. O. Miller; West Virginia, T. C. Campbell, Jr.

6:00 P.M.—Dinner Meeting of Officers, Editors, and Correspondents.

## 8:00 P.M.—Evening Session

Chairman: G. T. Schwenning, University of North Carolina. Introduction of President.

Presidential Address: The Scientific Revolution and Its Impact on Modern Economics. Edward H. Anderson, University of Alabama.

## Saturday Morning, November 17, 1956

## 9:00 A.M.—Annual Business Meeting

## 10:00 A.M.—Seminar A: Economic Growth and Southern Agriculture. Chairman: George H. Aull, Clemson Agricultural College.

1. The Economic Nature of Cotton. M. K. Horne, National Cotton Council of America. Discussion: Frank J. Welch, University of Kentucky.
  2. The Use of Capital and Labor on Commercial Farms in the Piedmont Area. John T. Harris, Federal Reserve Bank of Atlanta. Discussion: Henry G. Hamilton, University of Florida.
  3. The Role of Part-Time Farming in the Economic Development of the South. Charles E. Bishop, North Carolina State College. Discussion: Howard Bonser, University of Tennessee.
- 10:00 A.M.—Seminar B: Financial Institutions and Economic Development. Chairman: E. M. Bernstein, International Monetary Fund.
1. The Contributions of Life Insurance to Capital Formation in the South. Rector R. Hardin, Howard University. Discussion: Richard B. Johnson, Southern Methodist University.
  2. The Reform of Deposit Insurance. Charles F. Haywood, Tulane University. Discussion: Edward T. Shipley, Wachovia Bank and Trust Company, Winston-Salem, N. C.
  3. The Underwriting of State and Local Government Securities in Six Southeastern States. Charles S. Overmiller and Charles T. Taylor, Federal Reserve Bank of Atlanta. Discussion: W. E.

Easterling, Secretary, North Carolina Local Government Commission.

## 10:00 A.M.—Seminar C: Public Policy. Chairman: James E. Thorogood, University of the South.

1. The Celler-Kefauver Antimerger Law: Its Meaning and Implications. David D. Martin, Washington University. Discussion: Joseph C. Golden, Tennessee Polytechnic Institute.
  2. Motor Carrier Costs and Minimum Rate Regulation in California. Howard W. Nicholson, University of Virginia. Discussion: James P. Payne, Jr., Louisiana State University.
  3. Allocation of Costs in Public Utilities. John M. Ryan, Datico Corporation, Fort Worth, Texas. Discussion: E. W. Clemens, University of Maryland.
- 10:00 A.M.—Econometrics Roundtable. Chairman: Harold Hotelling, University of North Carolina.
1. Activity Analysis and the Theory of Competition. Lionel McKenzie, Duke University. Discussion: Rutledge Vinning, University of Virginia.
  2. Linear Programming of Input-Output Problems. Robert E. Kuenne, Princeton University. Discussion: Richard A. King, North Carolina State College.
  3. Formal Inter-Relations Between Economics and Probability Theory. Cleon Harrell, North Carolina State College. Discussion: John S. Henderson, University of Alabama.

## 12:00 Noon. Meeting of the Joint Executive Committee.

## DEATHS

R. A. Chapman, professor in the Division of Social Studies at Florida Southern College, has died.

E. G. Rasmussen, associate professor of business administration at Vanderbilt University, died March 4, 1956.

Clarence A. Wiley, who has been a member of the Department of Economics at the University of Texas since 1920 and professor of economics since 1929, died on April 27, 1956.

## APPOINTMENTS AND RESIGNATIONS

Clark Lee Allen, formerly head of the Department of Economics at A. and M. College of Texas, has been appointed head of the Department of Economics at North Carolina State College.

B. C. Alread, associate professor of business and economics, Hendrix College, is on leave to complete his work for the Ph.D. degree.

Ben F. Alvord, head of the Department of Agricultural Economics at Alabama Polytechnic Institute since 1936, assumed a full-time research position at the Alabama Agricultural Experiment Station in September 1956.

Wilson Ashby has resigned from the University of Mississippi to accept the chairmanship of the Department of Secretarial Administration at the University of Alabama.

James E. Bagwell has returned as assistant professor of geography in the Department of Economics and Business Administration after a year's leave of absence for graduate study at the University of North Carolina.

George B. Baldwin, of Massachusetts Institute of Technology, has been appointed visiting associate professor of economics at Vanderbilt University.

Lloyd E. Baugham has been promoted to professor of business education, the Georgia State College of Business Administration.

W. H. Baughn, formerly professor of business administration at Louisiana State University, has been appointed professor of finance at the University of Texas.

W. R. Beaton, of Ohio State University, was interim instructor in insurance at the University of Florida during the Summer Session 1956.

Leland L. Beik, formerly assistant professor of marketing, University of Arkansas, has accepted a similar position at Pennsylvania State University.

L. J. Benninger, of the University of Alabama, has been appointed visiting professor of accounting at the University of Florida.

Kenneth Black, Jr., has been promoted to professor of insurance, real estate and law at Georgia State College of Business Administration.

Martin Lee Black, Jr., professor of accounting at Duke University, is on sabbatical leave during the first semester of 1956-57. He has received a Fulbright appointment and will teach at the University College, Canberra, Australia.

C. P. Blair has been appointed assistant professor of international trade in the College of Business Administration, University of Texas.

J. T. Bonner, of Ohio State University, served as visiting assistant professor of real estate, University of Florida, during the Summer session 1956.

R. W. Bradbury, professor of economics, University of Florida, spent six weeks during the past summer with United Airlines on a Foundation for Economic Education fellowship.

Francis Bridges has been appointed assistant professor of management at Georgia State College of Business Administration.

Richard Brooks has been promoted to assistant professor of economics at Delta State College.

Robert Kevin Brown has been appointed assistant professor of real estate at Georgia State College of Business Administration.

James M. Buchanan, formerly head of the Department of Economics at Florida State University, has been appointed head of the Department of Economics at the University of Virginia.

J. D. Butterworth, associate professor of marketing, University of Florida, was one of the group of four participating in a Summer Program for Teachers of Retailing at the Harvard Graduate School of Business Administration. Later he attended the International Harvester Company's 1956 program for university professors.

Calfrey C. Calhoun has been appointed assistant professor of business education at Georgia State College of Business Administration.

Ralph L. Chaffin, of Georgia State College of Business Administration, is on leave of absence to work on his doctorate at the University of Chicago.

Alfred F. Chalk, Jr., has been appointed chairman of the Department of Economics at Texas A. and M. College.

John M. Champion, of Georgia State College of Business Administration, has been granted a one-year leave of absence to work on his doctorate at Purdue University.

James E. Chapman has been appointed associate professor and chairman of the Department of Management at Georgia State College of Business Administration.

Frank J. Charvat has been appointed associate professor of marketing, School of Business Administration, University of South Carolina.

Earl Clevenger is teaching economics at Harding College.

Robert Cojeen, University of Kentucky, was with Bemis Brothers Bag Corporation the past summer on a Foundation for Economic Education fellowship.

Marshall R. Colberg has been appointed chairman of the Department of Economics at Florida State University.

Dorothy Coleman has accepted a position as instructor in commerce at Mississippi Southern College.

Eli P. Cox, Jr., who has returned from a year's leave of absence at the University of Texas, has been promoted to professor of marketing at North Texas State College.

William D. Crapps has been appointed head of the Business Administration Department at Lander College.

James Crawford has been appointed assistant professor of industrial relations at Georgia State College of Business Administration.

Robert L. Crinaker, formerly of Ohio University, has been appointed assistant professor of accounting in the College of Business Administration, University of Texas.

M. Gordon Daniels has been promoted to assistant professor of economics at Texas A. and M. College.

Eleanor DeBoer has been promoted to professor of economics at Baylor University.

H. Paul Dellinger has been appointed instructor in management at Baylor University.

Donald Dewey, assistant professor of economics at Duke University, is on sabbatical leave for the year 1956-57. He has received a Fulbright appointment to do research in England.

Robert Dinman, professor of accounting, University of Florida, is serving in a similar capacity at the University of Ceylon on a Fulbright grant during 1956-57.

Robert S. Downer, who completed the course work for his doctorate at the University of Iowa last summer, has returned to his position of assistant professor of marketing at the University of Mississippi.

Carrol W. Ehlers has been promoted to associate professor of marketing at Georgia State College of Business Administration.

Herman Ellis, University of Kentucky, was with the United States Steel Company during the past summer on a Foundation for Economic Education fellowship.

R. B. Eutsler, professor of economics, University of Florida, spent six weeks during the past summer with Western Electric Company on a Foundation for Economic Education fellowship.

Rashi Fein, who received the Ph.D. degree from The Johns Hopkins University in June, has been promoted to assistant professor of economics at the University of North Carolina.

Rendigs Fels has been promoted to professor of economics at Vanderbilt University.

J. D. Fenn and Mrs. J. D. Fenn, both of Harding College, are on leave of absence this academic year.

Carl V. Fisher is serving as part-time instructor in insurance at the University of North Carolina during the current academic year.

A. C. Flora, Jr., of the University of South Carolina, has received a grant by the Southern Fellowship Fund to complete his dissertation at the University of North Carolina.

Joe S. Floyd, Jr., formerly of the University of Florida, served as visiting professor at the University of North Carolina during the summer session, and joined the faculty of the University of North Carolina as associate professor of finance in September.

Kenneth H. Foote has been appointed assistant professor of business administration at The Citadel.

Ben L. Forbes has accepted the position of acting head of the Department of Accounting at Mississippi Southern College. He formerly was at the University of Indiana.

Gerald Forbes has resigned as head of the Department of Journalism at the University of Mississippi to accept a similar position at Northeast State College (Oklahoma).

John N. Fry, formerly of the University of Texas, has accepted an appointment as assistant professor of economics and finance at the University of Houston.

Howard Gordman, formerly with LaGrange College, has been appointed associate professor of economics at Georgia State College of Business Administration.

Levern Graves has been appointed assistant professor of economics at Florida State University. He was formerly head teaching assistant in economics at the University of California in Berkeley.

O. L. Gray, assistant professor of economics at Furman University, is working toward the Ph.D. degree at Emory University this year.

Ortha Gray, formerly of Furman University, has been appointed assistant professor of accounting at Georgia State College of Business Administration.

Melvin L. Greenhut has been promoted to professor and chairman of the Division of Social Relations and Business at Rollins College.

Edna L. Gregg has been promoted to professor of office administration at Baylor University.

John Hall has been appointed associate professor of insurance at Georgia State College of Business Administration.

Orville J. Hall has been promoted to professor of economics in the College of Business Administration, University of Arkansas.

W. R. Hammond has been promoted to associate dean of the School of Business Administration, Georgia State College of Business Administration.

Dale S. Harwood, formerly of the University of Washington, has been appointed assistant professor of accounting in the College of Business Administration, University of Texas.

Paul G. Hastings has been named director of the Bureau of Business Research at Texas Christian University.

Robert D. Hay, University of Arkansas, has been promoted to associate professor of management in the College of Business Administration.

John L. Hazard, associate professor of international trade and transportation, College of Business Administration, University of Texas, has been granted a leave of absence for 1956-57. During the first semester he will do research under a grant from the University of Texas Graduate School, and during the second semester he will serve as economist for the St. Lawrence Seaway Development Corporation, with headquarters in Washington, D. C.

Richard C. Henshaw has been promoted to associate professor of business statistics in the College of Business Administration, University of Texas.

C. Addison Hickman, formerly professor and head of the Department of Economics, has been appointed dean of the School of General Studies at North Carolina State College.

Edgar Powell Hickman has received an appointment as teaching fellow in economics at the University of North Carolina.

Will T. Hicks, head of the Department of Economics and Business Administration at the University of Mississippi, attended the 1956 Middle Management Institute sponsored by the Ford Foundation at the Harvard Graduate School of Business Administration.

Billy J. Hinton has been promoted to professor of economics and named acting chairman of the Department of Economics at Baylor University.

R. J. M. Hobbs, who has served as dean of the University of North Carolina School of Business Administration for the past two years, returned to full-time teaching in the fall semester of 1956.

W. M. Howard, associate professor of insurance, University of Florida, served as a consultant with Hercules Powder Company during the summer of 1956.

Bub R. Hutchinson, formerly of Michigan State University, has been appointed assistant professor of economics at Alabama Polytechnic Institute.

James C. Ingram, University of North Carolina, has been promoted to associate professor of economics. He served on the staff of the Institute of Economic Development held at Vanderbilt University during the summer.

E. L. Jackson has been promoted to professor of economics, University of Florida.

Hans E. Jensen, formerly of the University of Texas, has been appointed assistant professor of economics at the University of Alaska.

G. M. Jones, instructor in accounting at Louisiana State University, has resigned to accept a position as assistant professor of accounting at Michigan State University.

John W. Kennedy, formerly professor of economics at Alabama Polytechnic Institute, has been appointed head of the Department of Economics at the Woman's College of the University of North Carolina.

James H. Key, who recently received his Ph.D. at the University of Texas, has been promoted to professor of accounting at Texas Christian University.

Wylie Kilpatrick, research professor in the Bureau of Economic and Business Research, University of Florida, has been granted a year's leave of absence to serve as executive director of the Florida Citizens Tax Council.

Randolph G. Kinabrew has been promoted to professor of economics at the University of Mississippi. He served as acting head of the Department of Economics and Business Administration during the 1956 summer.

Donald C. King has been appointed instructor in economics at Alabama Polytechnic Institute.

Joseph E. Kling has been appointed instructor in the School of Industrial Management, Georgia Institute of Technology.

W. R. Knight, formerly chairman, Department of Economics, Georgia State College of Business Administration, has been appointed director of the Bureau of Business Research.

Ben T. Lanham, Jr., has been promoted to head of the Department of Agricultural Economics at Alabama Polytechnic Institute.

Leon Lee has completed the requirements for the Ph.D. degree at Louisiana State University and has returned to his former position of assistant professor of economics at the University of Oklahoma.

Maurice Wentworth Lee, dean of the School of Economics and Business of the State College of Washington since 1947, has been appointed dean of the University of North Carolina School of Business Administration.

Ben Lemert, associate professor of economics at Duke University, is on leave the first semester of 1956-57.

Alton B. Parker Liles, formerly head of the Business Education Department of the Atlanta public schools, has been appointed chairman and associate professor, Department of Business Education at Georgia State College of Business Administration.

C. L. Littlefield, chairman of the Management Division, North Texas State College, has been promoted to distinguished professor of management.

S. D. Lovell has been promoted to associate professor of public administration at Georgia State College of Business Administration.

Fritz A. McCameron has been promoted to associate professor of accounting at Georgia State College of Business Administration.

H. L. McCracken, professor and head of the Department of Economics at Louisiana State University, is on sabbatical leave during the fall semester.

Stephen L. McDonald has resigned his position as assistant professor of economics, University of Texas, and accepted an appointment as economist with the Humble Oil and Refining Company, Houston, Texas.

Stuart W. McFarland has been promoted to professor of marketing at Georgia State College of Business Administration.

Vincent T. McKenna, formerly of the University of Texas, has been appointed assistant professor of economics at Texas A. and M. College.

James McLean has been appointed assistant professor of accounting at Georgia State College of Business Administration.

John MacDonald has been appointed professor of management at the University of South Carolina.

George Malanos, formerly of the University of Miami, has been appointed professor and chairman of the Department of Economics at Georgia State College of Business Administration.

F. Ray Marshall, associate professor of economics at the University of Mississippi, is back at the University after a year's study at the University of Helsinki, Finland, under a Fulbright grant.

Martha Jean Massey has been appointed instructor in office administration at Baylor University.

W. D. Maxwell, of The Johns Hopkins University, has been appointed assistant professor of economics at the University of South Carolina.

William Melcher of the Department of Business Administration at Rollins College is spending a year in travel.

Lee J. Melton, formerly of the University of Florida, was appointed associate professor of economics at Louisiana State University, beginning in September, 1956.

N. A. Mercer has been promoted to assistant professor of economics at the University of Florida.

William Merrill, of Mississippi State College, has been appointed associate professor of economics at Georgia State College of Business Administration.

Michael Mescon has been appointed assistant professor of management at Georgia State College of Business Administration.

Walter O. Middleton has joined the Department of Economics and Business Administration at Alabama Polytechnic Institute as instructor in economics.

Catherine Miles has been promoted to associate professor of accounting at Georgia State College of Business Administration.

H. Lynn Miller has been appointed instructor in the School of Industrial Management, Georgia Institute of Technology.

Norman O. Miller, formerly of Indiana University, has been appointed assist-

ant professor of finance in the College of Business Administration, University of Texas.

Jerome W. Milliman has resigned at Florida State University to become assistant professor in the School of Agriculture, University of California at Los Angeles.

Amos Monroe Moore has received an appointment as teaching fellow in economics at the University of North Carolina.

C. N. Moore, formerly of the University of Alabama, has been appointed assistant professor of economics and statistics, University of Florida.

Aurelius Morgner has been promoted to professor of economics at Texas A. and M. College.

James A. Morris has been promoted to professor of economics at the University of South Carolina.

Ernest G. Muntz has resigned at Blue Mountain College to accept a position at Union University (Tennessee).

Vernon Musselman, professor of business education, University of Kentucky, was at Irvington-on-Hudson last August on a Foundation for Economic Education fellowship.

Warren B. Nation, after a two-year leave of absence spent at the University of Alabama Graduate School, has returned to Mississippi Southern College as head of the Department of Economics.

William Ogram has been appointed assistant professor of economics at Georgia State College of Business Administration.

John T. O'Neil has resigned at the University of North Carolina to join the faculty of Northwestern University.

Roy Ott, Harding College, is on leave of absence to continue work toward his terminal degree at Vanderbilt.

Stephen Parkana has been appointed assistant professor of marketing at Georgia State College of Business Administration.

James E. Parks, who has been on extended leave from the University of Mississippi, has resigned to accept a position at Purdue University as associate professor of business administration.

A. W. Patrick, formerly of the University of Virginia, has been appointed associate professor of accounting at Georgia State College of Business Administration.

Clarence E. Philbrook, professor of economics at the University of North Carolina, attended a two-week seminar in Boston on Religion and Policy Decisions in American Business, sponsored jointly by the Danforth Foundation and the Harvard Business School. Participants were 25 selected professors of economics and business administration who have an interest in the relation of religion to economic life.

Jesse F. Pickrell has been promoted to professor of insurance at North Texas State College.

John D. Potter, formerly at the University of Toledo, has been appointed assistant professor of finance at North Texas State College.

Leonard Prestwich, formerly of Brigham Young University, has been appointed associate professor of marketing in the Department of Economics and Business Administration at Alabama Polytechnic Institute.

Olin S. Pugh has returned to the University of South Carolina after a year of graduate work at Duke University.

L. L. Qualls, assistant professor of economics, University of Florida, was on leave during the summer of 1956 to serve with the Florida Citizens Tax Council.

B. U. Ratchford, professor of economics at Duke University, has returned from sabbatical leave for the year 1955-56. He traveled in Canada, Australia, New Zealand and the Union of South Africa working on a comparative study of government expenditure patterns.

D. D. Ray has been promoted to associate professor of accounting, University of Florida.

Paul H. Rigby has resigned from the faculty of Georgia State College of Business Administration to join the staff of the Bureau of Business Research, University of Houston.

Dwight D. Saunders, Southern State College (Arkansas), has resigned as economics teacher to accept a position at Drake University.

David Schwartz, formerly of the University of Detroit, has been appointed associate professor of marketing at Georgia State College of Business Administration.

William G. Scott has been appointed assistant professor of management at Georgia State College of Business Administration.

Martin Segal, formerly of Harvard University, has been appointed assistant professor of economics, University of Florida.

Richard T. Selden has been promoted to associate professor of economics at Vanderbilt University.

A. M. Sievers has been promoted to professor of economics, University of Florida.

B. F. Sliger has been promoted to associate professor of economics at Louisiana State University.

F. DeVere Smith, professor of economics and head of Secretarial Science at the University of South Carolina, was a seminar participant in June at Irvington-on-Hudson, New York.

Harold A. Staine has resigned at Carson-Newman College to accept a position in the Department of Economics at Alabama Polytechnic Institute.

Thomas M. Stanback, Jr., of the University of North Carolina, has resigned to join the faculty of New York University.

Ernst W. Swanson, formerly professor of economics at Emory University and recently connected with Lockheed Aircraft Corporation, has been appointed head of economic research in the newly organized Industrial Development Branch, Engineering Experiment Station, Georgia Institute of Technology.

V. V. Sweeny, professor of insurance, University of Florida, served in a consulting capacity with Allis Chalmers Company during the summer of 1956.

Samuel S. Talbert has been promoted to head of the Journalism Department at the University of Mississippi.

Anthony Täng has been promoted to assistant professor of economics at Vanderbilt University.

Curtis E. Tate, Jr., has resigned as Lander College business manager and head of the Business Administration Department to become assistant professor of economics at Georgia State College of Business Administration.

Henry Thomassen has been appointed assistant professor of economics at Georgia State College of Business Administration.

Edsel E. Thrash has been appointed instructor in economics at Louisiana State University. Last year he held one of the Earhart Foundation fellowships.

William O. Thweatt, of the University of Montana, has been appointed visiting assistant professor of economics at Vanderbilt University.

Sam B. Tidwell has resigned as head of the Department of Accounting at Mississippi Southern College to accept a position at the Michigan School of Mines and Technology.

Robert H. Tucker, dean emeritus of Washington and Lee University since 1950, and president of the Southern Economic Association during 1938-1939, was honored by being awarded the Doctor of Laws degree by Washington and Lee University at the last commencement. Dean Tucker continues to serve as economic consultant for the Virginia Department of Highways.

Billy W. Turner has been appointed instructor in economics at Baylor University.

Zenobia Tye has been appointed assistant professor of business education at Georgia State College of Business Administration.

Frank T. de Vyver, professor of economics at Duke University, has received a Fulbright appointment to teach at the University of Sydney in Australia from June 1956 through January 1957. He is on sabbatical leave.

Louie Walter, College of Business Administration, University of Arkansas, has resigned as assistant professor of economics to enter the Army as a Protestant chaplain.

Glenn A. Welsch has been promoted to professor of accounting in the College of Business Administration, University of Texas.

W. H. Wesson, formerly of the University of Chattanooga, was appointed to the economics faculty of Louisiana State University, beginning September, 1956.

Russell E. Westmeyer, professor of general business, College of Business Administration, University of Arkansas, has been appointed head of the Department of General Business.

Albert G. White has been appointed instructor in economics at Baylor University.

Carl Wiegand, who served as visiting lecturer of economics at the University of Illinois during the 1955-56 academic year, has returned to the University of Mississippi as professor of economics.

Gustavus G. Williamson, Jr., of Millsaps College, has been appointed assistant professor of economics at the University of South Carolina.

Henry B. Wilson, assistant professor of management at the University of Mississippi, is currently at the University of Alabama working on his dissertation.

George D. Worley has been appointed instructor in management at Baylor University.

J. W. Wyatt has been promoted to professor of business law, University of Florida.

Orville Yeager, professor of history and economics, Ouachita Baptist College (Arkansas), has resigned.

#### NEW MEMBERS

The following names have been added to the membership of the Southern Economic Association:

Paul E. Bryant, P. O. Box 2864, Charleston 1, W. Va.

Maurice J. Erickson, Southwest Texas State College, San Marcos, Tex.

Lawrence E. Fouraker, Pennsylvania State University, State College, Pa.

Carl E. Frisby, Alabama Polytechnic Institute, Auburn, Ala.

Donald J. Hart, University of Florida College of Business Administration, Gainesville, Fla.

Frank L. Keller, Tulane University, New Orleans, La.

Chester F. Lay, Southern Methodist University, Dallas, Tex.

William A. Mauer, Texas A. and M. College, College Station, Tex.

R. W. Molten, University of North Carolina, Chapel Hill, N. C.

Bernard M. Olsen, North Carolina State College, Raleigh, N. C.

Wm. J. Phillips, Southwestern Louisiana Institute, Lafayette, La.

Fletcher E. Riggs, Tennessee Valley Authority, Knoxville, Tenn.

C. R. Wick, Esso Standard Oil Company, Baton Rouge, La.

Clyde E. Woodall, 249 "E" Street, Clemson, S. C.

## BOOKS RECEIVED

- Abramovitz, Moses. *Resource and Output Trends in the United States since 1870*. New York: National Bureau of Economic Research, 1956. Pp. 23. Paper, 50¢.
- Albig, William. *Modern Public Opinion*. New York: McGraw-Hill Book Co., 1956. Pp. xii, 518. \$6.50.
- Anderson, Ronald A. and Kumpf, Walter A. *Business Law*. 5th ed. Cincinnati, Ohio: South-Western Publishing Co., 1956. Pp. ix, 950. \$6.25.
- Bendix, Reinhard. *Work and Authority in Industry: Ideologies of Management in the Course of Industrialization*. New York: John Wiley & Sons, 1956. Pp. xxv, 466. \$7.50.
- Benham, Frederic. *Economics: A General Introduction*. New York: Pitman Publishing Corp., 1955. Pp. xvi, 568. \$4.00.
- Bethel, Lawrence L., and others. *Industrial Organization and Management*. 3rd ed. New York: McGraw-Hill Book Co., 1956. Pp. viii, 719. \$6.75.
- Biggs, Robert M. *National-Income Analysis and Forecasting*. New York: Norton & Co., 1956. Pp. xxi, 610. \$5.95.
- Blodgett, Ralph H. and Kemmerer, Donald L. *Comparative Economic Development*. New York: McGraw-Hill Book Co., 1956. Pp. x, 557. \$6.00.
- Burkhead, Jesse. *Government Budgeting*. New York: John Wiley & Sons, 1956. Pp. ix, 498. \$7.50.
- Burns, Eveline M. *Social Security and Public Policy*. New York: McGraw-Hill Book Co., 1956. Pp. xvi, 291. \$5.50.
- Charlesworth, Harold Karr. *The Economics of Repressed Inflation*. New York: Macmillan Co., 1956. Pp. 126. \$2.50.
- Devons, Ely. *An Introduction to British Economic Statistics*. New York: Cambridge University Press, 1956. Pp. vii, 255. \$4.00.
- Educational Policies Commission. *Manpower and Education*. Washington, D. C.: Educational Policies Commission of the National Education Association of the United States and the American Association of School Administrators, 1956. Pp. 127. Paper, \$1.25.
- Freedman, Ronald and others. *Principles of Sociology: A Text with Readings*. Rev. ed. New York: Henry Holt & Co., 1956. Pp. xi, 604. \$6.25.
- Functions of a World Food Reserve: Scope and Limitations*. Rome, Italy: Food and Agriculture Organization of the United Nations, 1956. Pp. vi, 77. Paper, \$1.00.
- Greenhut, Melvin L. *Plant Location in Theory and in Practice: The Economics of Space*. Chapel Hill, N. C.: University of North Carolina Press, 1956. Pp. xiii, 338. \$7.50.
- Halm, George N. *Economics of Money and Banking*. Homewood, Ill.: Richard D. Irwin, 1956. Pp. xv, 577. \$6.00.
- Hayes, Douglas A. *Appraisal and Management of Securities*. New York: Macmillan Co., 1956. Pp. viii, 383. \$4.50.

- Hession, Charles H. and others. *The Dynamics of the American Economy*. New York: Alfred A. Knopf, 1956. Pp. xvii, 504, xii. \$5.75.
- Hickman, C. Addison and Kuhn, Manford H. *Individuals, Groups, and Economic Behavior*. New York: Dryden Press, 1956. Pp. xvii, 266. \$4.75.
- Hicks, J. R. *A Revision of Demand Theory*. New York: Oxford University Press, 1956. Pp. vii, 196. \$3.75.
- Hogan, John D. and Ianni, Francis A. J. *American Social Legislation*. New York: Harper & Brothers, 1956. Pp. xvi, 713. \$6.50.
- International Labor Conference. Thirty-ninth Session, Geneva, 1956. *First Item on the Agenda: Report of the Director-General*. Washington, D. C.: International Labor Office, 1956. Pp. 130. Paper, \$1.00.
- Jacoby, Neil H. *Can Prosperity Be Sustained? Policies for Full Employment and Full Production Without Price Inflation in a Free Economy*. New York: Henry Holt & Co., 1956. Pp. xii, 152. \$2.25.
- Kemp, Arthur. *The Legal Qualities of Money*. New York: Pageant Press, 1956. Pp. 181. \$5.00.
- Kemp, Arthur. *The Role of Government in Developing Peaceful Uses of Atomic Energy*. Washington, D. C.: American Enterprise Association, 1956. Pp. vii, 53. Paper, \$1.00.
- Kent, Raymond P. *Money and Banking*. 3rd ed. New York: Rinehart & Co., 1956. Pp. xvi, 828. \$6.50.
- Kirkpatrick, Charles Atkinson. *Salesmanship: Helping Prospects Buy*. 2nd ed. Cincinnati, Ohio: South-Western Publishing Co., 1956. Pp. viii, 631. \$5.50.
- Knauth, Oswald. *Business Practices, Trade Position, and Competition*. New York: Columbia University Press, 1956. Pp. 181. \$3.00.
- Knight, Frank H. *On the History and Method of Economics*. Chicago, Ill.: University of Chicago Press, 1956. Pp. vii, 309. \$6.00.
- Koontz, Harold and Gable, Richard W. *Public Control of Economic Enterprise*. New York: McGraw-Hill Book Co., 1956. Pp. xii, 851. \$7.00.
- Kornhauser, Arthur and others. *When Labor Votes: A Study of Auto Workers*. New York: University Books, 1956. Pp. 352. \$5.00.
- Levinson, Edward. *Labor on the March*. New York: University Books, 1956. Pp. xxii, 325. \$3.50.
- McAllister, Harry E. *The Elasticity of Demand for Gasoline in the State of Washington*. Pullman, Wash.: State College of Washington, 1956. Pp. xiv, 80. Paper, \$2.00.
- Mack, Ruth P. *Consumption and Business Fluctuations: A Case Study of the Shoe, Leather, Hide Sequence*. New York: National Bureau of Economic Research, 1956. Pp. xvii, 293. \$7.50.
- Manne, Alan S. *Scheduling of Petroleum Refinery Operations*. Cambridge, Mass.: Harvard University Press, 1956. Pp. xii, 185. \$5.00.
- Marburg, Theodore F. *Small Business in Brass Fabricating: The Smith & Griggs Manufacturing Co. of Waterbury*. New York: New York University Press, 1956. Pp. xii, 116. \$5.00.

- Mauser, Ferdinand F. and Schwartz, David J., Jr. *Introduction to American Business*. New York: American Book Co., 1956. Pp. ix, 661. \$6.00.
- Mehr, Robert I. and Osler, Robert W. *Modern Life Insurance: A Textbook of Income Insurance*. Rev. ed. New York: Macmillan Co., 1956. Pp. xvi, 747. \$6.00.
- Mills, Frederick C. *Introduction to Statistics*. New York: Henry Holt & Co., 1956. Pp. xv, 637. \$6.00.
- NPA Special Policy Committee on Technical Cooperation. *Technical Cooperation in Latin America: Recommendations for the Future*. Washington, D. C.: National Planning Association, 1956. Pp. xi, 192. Paper, \$2.50.
- Paden, Donald W. and Lindquist, E. F. *Statistics for Economics and Business*. 2nd ed. New York: McGraw-Hill Book Co., 1956. Pp. vii, 305. \$4.75.
- Patinkin, Don. *Money, Interest, and Prices: An Integration of Monetary and Value Theory*. Evanston, Ill.: Row, Peterson and Co., 1956. Pp. xix, 510. \$7.00.
- Phillips, Charles F. and Duncan, Delbert J. *Marketing: Principles and Methods*. 3rd ed. Homewood, Ill.: Richard D. Irwin, 1956. Pp. xviii, 789. \$6.50.
- Pigou, A. C. (ed.). *Memorials of Alfred Marshall*. New York: Kelley & Millman, 1956. Pp. ix, 518. \$8.50.
- Poole, Kenyon E. *Public Finance and Economic Welfare*. New York: Rinehart & Co., 1956. Pp. xvi, 640. \$6.50.
- Rogin, Leo. *The Meaning and Validity of Economic Theory: A Historical Approach*. New York: Harper & Brothers, 1956. Pp. xvii, 697. \$6.50.
- Schmidt, Wilson E. and others. *A Report on World Population Migrations: As Related to the United States of America*. Washington, D. C.: George Washington University, 1956. Pp. v, 449.
- Sennholz, Hans F. *How Can Europe Survive?* New York: D. Van Nostrand Co., 1955. Pp. iv, 336. \$5.00.
- Sennholz, Mary (ed.). *On Freedom and Free Enterprise: Essays in Honor of Ludwig von Mises*. Princeton, N. J.: Van Nostrand Co., 1956. Pp. xiv, 333. \$3.50.
- Smith, C. Jay, Jr. *The Russian Struggle for Power, 1914-1917: A Study of Russian Foreign Policy During the First World War*. New York: Philosophical Library, 1956. Pp. xv, 553. \$4.75.
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- Taylor, W. Bayard and Graner, Frank M. *Financial Policies of Business Enterprise*. 2nd ed. New York: Appleton-Century-Crofts, 1956. Pp. xix, 684. \$6.00.
- Towle, Lawrence W. *International Trade and Commercial Policy*. 2nd ed. New York: Harper & Brothers, 1956. Pp. xiv, 906. \$6.50.
- Von Wieser, Frederick. *Natural Value*. Edited with a Preface and Analysis by William Smart. New York: Kelley & Millman, 1956. Pp. xliv, 243. \$7.50.
- Ximenes, Vicente T. *Income by Counties in New Mexico*. Albuquerque, N. M.: University of New Mexico, 1956. Pp. 48. Paper, \$2.00.

